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ABSTRACT

This report is an analysis of an investigation of staffing requirements for librarianship and information work carried out between 1972 and 1975 under the title of Sheffield Manpower Project. The results of the administration of a job descriptive questionnaire to members in a representative 45 per cent sample of libraries and information units (19 public, 47 academic, and 91 special libraries) in England and Wales are reported. The form of job description, covering the intellectual, social, and physical demands of the work environment, enables the personnel requirements for the jobs to be inferred fairly directly. An assessment is made of the degree to which existing personnel meet the demands of their jobs. The way in which library and information work is changing, and the roles of men and women, and of graduates are also discussed. Appendices include statistical data on the distribution of library and information units by type, size, and number of employees; job holders' biographical characteristics; and general identifying characteristics of jobs. Summaries of the best and worst features of library and information work, as reported by the sample population, and a classification of jobs by cluster analysis is also included. (Author/JPF)

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Librarianship and Information Work: Job Characteristics and Staffing Needs

R Sergean

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ABSTRACT

The results of the administration of a job descriptive questionnaire to members of staff in a representative 5% sample of libraries and information units are reported. The form of job description, covering the intellectual, social, and physical demands of the work and work environment, enables the personnel requirements for the jobs to be inferred fairly directly. An assessment is made of the degree to which existing personnel meet the demands of their jobs. The way in which library and information work is changing, and the roles of men and women, and of graduates, are discussed. A job classification based on cluster analysis techniques is also attempted.

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FOREWORD

This report is based on an investigation of staffing requirements for librarianship and information work carried out between 1972-1975 under the title of the Sheffield Manpower Project. The research was funded by the former OSTI (Office for Scientific and Technical Information) and then the British Library Research and Development Department. The research team was based on the Postgraduate School of Librarianship and Information Science at the University of Sheffield, with Professor W L Saunders, Director of the School, as Project Director. An informal Advisory Committee was set up at the outset of the Project. The Committee comprised Mr E M Broome, Dr T H Cannon, Dr B J Enright, Mr H H Goom, Mr K Graves, Dr R H Orr, Mr N Roberts, Mr G E Smith, and Dr T D Wilson.

A much fuller account of the research has already appeared in the form of a final report to British Library[1] . The purpose of the present publication is to describe the Project's main features and findings in more succinct form. Anyone who is interested in a more detailed treatment of methodology and results, in additional illustrative material and supporting statistical evidence, should refer to the fuller text. The findings and views expressed here are solely the responsibility of the writer.

1 BACKGROUND TO THE PROJECT

The last decade has seen a rapid growth of general interest in manpower planning. The term manpower planning is a relatively new one. It is widely concerned with:

> ". . . all aspects of the recruitment, training and use of manpower resources. Not only does it involve trying to ensure that the right number of people with the right skills are available at the right time and place; it is equally concerned with providing the environment and opportunity for individuals to realise their full potential."[2]

In the library and information field interest in various aspects of manpower planning has developed at international[3], national[4], industry[5], and individual 'plant' level. This interest is also illustrated by the increasing involvement in, and support of, questions of 'man management' by the former Office for Scientific and Technical Information (OSTI) and later the British Library Research and Development Department (BLR&DD).

There are a number of reasons why manpower planning is of particular importance in the library and information field. In the first place: ". . . libraries are labour intensive – almost all their operating costs are for personnel"[6]. And: "In a highly labour intensive organization like local government the major scope for improvement in efficiency and effectiveness must come through more effective use of human resources"[7]. Consideration of change, whether technical, organizational or procedural, also places a premium upon the careful and productive use of manpower. What new demands from the work itself or the work environment do such changes place upon the jobholder? Thirdly, the economic climate of the last year or so, a period when "a wider range and larger number of demands on the library will have to be met from increasingly restrained resources"[8], has further served to underline the importance of personnel planning.

The starting point for all library manpower planning is the belief that the satisfactory functioning of library and information services depends to a large degree on adequate staffing. Adequate staffing involves:

(a) Attracting staff who are both motivated towards the work and capable of meeting its growing and changing demands.

(b) Employing staff on tasks, and under conditions, to which they are best suited and in which they can be most effective.

The research reported here is thus concerned with the qualitative aspects of manpower planning. It sought to contribute to the twin aims of matching people to jobs, and jobs to people.

2 COVERAGE AND BASIS OF THE REPORT

2.1 Introduction

The matching of people to jobs depends upon continuous selection, assessment, training and allocation; and the matching of jobs to people upon a continuous process of work, job and systems design. However these activities can only be carried out on the basis of a prior knowledge of the nature of the jobs and personnel available. This applies whether one is dealing with a single job or library, or whether, as in the present case, one's concern is very much broader. The terms of reference of this project required the research team to consider libraries and information units of every main type, and to be as comprehensive as possible as regards type and level of jobs and staff. The consideration of personnel requirements for so broad and varied a field entailed devising a means whereby jobs and jobholders could be described, compared and classified. This report is primarily concerned with this description, comparison and classification. The aim is to present job and personnel *descriptions*, not job and personnel *specifications*. These descriptions deal with the situation as it is, not with the situation as it is intended, or thought, to be.

More systematic knowledge about what people do at work, and under what conditions work is performed, enables selection and training needs for the present and the immediate future to be better determined. It is not suggested that these needs will exactly reflect the situation as it is. Rather they will reflect the present situation modified and restructured in certain directions.

The project team interpreted their role as that of providing further evidence on which to base the consideration of modification and change. The form of such modification and change is the concern of employers, managers and those concerned with education and training in librarianship and information work.

2.2 Methods of data collection

In the early part of the project a great deal of time was spent in observation and interviewing of staff and in the examination of records in a small sample of libraries and information units representative of various types and sizes of organization. This served a number of purposes. It gave research workers who were not themselves librarians or information specialists a grounding in, and feel for, an occupational field that was new to them. It provided an opportunity for trying out different methods of collecting job information and determining which aspects of the work and work environment are most relevant in the library and information context. In particular, this initial stage was a necessary prerequisite to the designing of the structured job descriptive questionnaire which was administered on a wide scale during late 1974 and early 1975. This report is largely based on the findings of the questionnaire and on information collected during visits made to administer it.

The characteristics of the Job Analysis Questionnaire (JAQ), and the problems which led to its construction, are discussed at length in the main report and elsewhere[9].*

*Copies of the JAQ can be obtained from the Postgraduate School of Librarianship, University of Sheffield. Please enclose a SAE (size C4, 12¾" x 9").

The JAQ was designed for administration to individual members of staff in a representative sample of library establishments. It was an attempt to devise a standard means of collecting job information in a form which would permit coverage of, and comparison within, a wide and varied population, the information being provided by the jobholders. The information sought by the JAQ covered not only the demands of the work itself and its constituent taks, but those of the total job situation in which the work was carried out. It also sought information about the jobholder and how he adapted to these demands. The objects of study were not idealized jobs or positions on a blueprint, but positions which were occupied, jobs in process of being performed, by individual men and women. Each questionnaire return yielded information about a specific job, a specific jobholder and the relationship between the two.

The Job Analysis Questionnaire, which was the main data-gathering instrument used in the project, was firmly based on:

(a) A knowledge and use of job descriptive techniques in other contexts.

(b) Lengthy trials in various kinds of library and information unit in which detailed interviews and other methods of collecting comparative job information were employed.

Analysis and interpretation of questionnaire responses were carried out by reference to the background visits to those units surveyed. The JAQ was not just another postal questionnaire.

The aim in visiting the library units in which the JAQ was administered was only partly to collect additional background information against which questionnaire responses could be evaluated. It was also considered important to make direct personal contact with as many prospective respondents as possible, both to explain the mechanics of the research and to try to convey a 'feel' for it. The voluntary nature and confidentiality of the questionnaire were stressed throughout. Details of its administration can be found in the main report.

2.3 Sampling

It was fortunate that the Department of Education and Science was processing the returns of the 1972 Census of staff in librarianship and information work at the time when the project team had to decide on a basis for sampling. The aim of the Census was to collect information as a basis for future planning of manpower needs in this field. "Prior to this census", to quote the DES report on this work[10], "there was no set of returns which attempted to cover the staffing of all types of library and information service on a comprehensive and comparable basis". The Department believes that "practically all libraries of significance" were included in their survey.

The Census population sampled was one of "libraries or information departments which are administratively separate", and not one of parent organizations. The sample of units was selected partly on the basis of organizational type. Twelve Census categories – public, other local government, university, polytechnic, college of education, college of further education, Government department, public corporation, private industry, learned/professional society, research/trade association, and other – were used. National libraries and library schools were excluded for administrative reasons. The sample was also selected on the basis of unit size (measured by total staff in post). The distribution of units within each organizational type was divided into size bands containing equal numbers of units, and selection randomly made within each size band. The advantages of this method of sampling were that selection was made from a total population that was uniformly defined, and that the distribution in the sample of both

units and staff mirrored the distribution of units and staff in the total population.

The sample size was 5% of "separate administrative units" in England and Wales (ie 174 units). It was planned to administer the JAQ to all members of staff within these units, with the exception of certain groups such as manual staff and those working less than half-time. In practice the effective sample size was reduced to 4½%, or 157 units, (19 public units, 47 academic units, and 91 special units). This was due to such factors as the existence in the sample of units found to be no longer operational, or the inability to arrange research facilities in the time available. From these units 1,012 questionnaires, each describing a separate post, were completed by jobholders (547 public, 214 academic, 251 special). This represents an overall response rate of 68% (63% public, 74% academic, 74% special) from individual jobholders. Bearing in mind the problems involved, the distribution of units and of personnel in the sample returns reflects the distribution in the wider population to a very satisfactory degree, and provides a sound basis for generalizations about library and information units and their staff. The writer is grateful to everyone who made this possible.

3 GENERAL CHARACTERISTICS OF THE LIBRARY AND INFORMATION FIELD

It is useful to consider certain broad aspects of the occupational field in which the project operated before considering the job and jobholders in the sample in more detail. These aspects include its size structure, variety and the nature of the commodity handled. These three characteristics help determine the general framework within which library personnel planning must take place.

3.1 Size structure

In Appendices I-V the size structure of the library and information field is illustrated in tabular and graphical form by material adapted from the 1972 DES Census. The tables in Appendices I-III summarize the distributions of units and staff for each organizational type in the DES Census population. The figures in Appendices IV and V show the distribution of units by unit size, and of staff by unit size, for these organizational types grouped into public, academic, and special categories.

The dominant feature of these presentations is the very high proportion of small units. The Census figures show that 95% of units employ 50 or fewer staff, that 83% of units employ ten staff or less, while 32% of units employ only one person, either full- or part-time. As regards the distribution of staff by unit size, 54% of the workforce are to be found in the top 5% of larger units (over 50 people). However it is worth stressing the fact that almost half of all library and information workers are employed in units of 50 or less, and a fifth of them in units of ten or less. This dominance by small units has implications for both work organization and career planning. A high proportion of the work in small units will call for generalists and all-rounders, at least so far as function is concerned. There will be a need for functional specialists only in the largest units. Secondly, as regards career planning, promotion and advancement will largely be gained through an ability and willingness on the part of staff to switch jobs and employers. (Exceptions are staff in small units which are located in larger organizations who have the drive and ability to library 'empire-build' or to move away altogether from purely library and information work into, say, general management.) This need for mobility and interchange of staff between small units also calls for acceptance on the part of employers and senior management. Experience in other industries with similar size structures suggests that there is often reluctance to spend time and money on the training of staff who are then likely to leave. The number of small units, and the proportion of staff in such units, underline the importance of local co-operative schemes of staff selection and training. They also point up the need for variety and flexibility in the form and content of education and training.

These general observations must be qualified in two ways. First, the DES follow-up Census of 1976 will certainly show a movement towards greater unit size as a result of recent organizational developments in the national, public and educational sectors. This will mean some further division of labour and the creation of additional functional specialist jobs. It will also mean, at least in theory, greater training and career opportunities within larger units. Secondly, unit size (as measured by the number of staff in post) must be interpreted with caution:

(a) Many small library units will be separate units within larger parent organizations (for example, a departmental library within a large university system, or a company

information unit within a large industrial group). Staff will therefore benefit from the work facilities, the conditions of employment and the career opportunities offered by a larger organization.

(b) Many large library units (eg public libraries) have a fragmented and scattered organization, and many of the staff involved, eg those manning small service points, have the same type of day-to-day operational experience as those in small units. Moreover, advancement opportunities in the new, enlarged local authorities may, to some extent, be illusory. Some middle-management public librarians have seen local authority reorganization as diminishing their own prospects, particularly their chances of 'running their own show'.

In spite of the qualifications above, the library and information field remains characterised by small unit operation, and is likely to remain so in the years immediately ahead.

In considering the question of growth and the possibilities of economies of scale, account should be taken of evidence from other occupational fields where an increase in institutional size and size of working group has tended to be associated with a reduction in morale and working efficiency. This question of size and its effects on employee attitudes and behaviour is one which could profitably be examined in more detail in the library and information field.

3.2 Variety

The writer has developed in other contexts the concept of 'situational uniqueness' and the need for taking account, in work organization and in personnel planning, considerations which arise from the particular relationship between one working group and one client group. If the concept of situational uniqueness applies anywhere, it surely applies in the library and information field, with the variety of organizational settings in which staff operate, and the range of services offered and of materials and subjects involved.

This job characteristic of variety, which impresses itself upon the outsider, was amply confirmed by jobholders' responses during the survey. Over 80% of personnel in all types of organization (public, academic and special) rated their work as varied, and in discussion of the 'best' and 'worst' features of a job in this field, 20% of all favourable comments referred to some aspect of variety. Only involvement with users scored higher as a popular feature of a job, and even here much of the attraction appeared to derive from the element of diversity and unexpectedness which contact with people brings.

If such variety is to be a continuing characteristic of the library field, and it seems likely to increase rather than to diminish, then a corresponding degree of variety in the people recruited to it, and in the form and content of their education and training, seems necessary. Any educationally- or professionally-determined closed shop would seem to be inappropriate in the selection and appointment of staff. The specific background or experience of a member of staff may be just as, and even more, important than a degree or a formal qualification. It often appeared that the critical factor in a successful appointment was that the person concerned had half a lifetime's sales experience in the paint industry, or was married to a stockbroker, or had an enthusiast's absorption in 1920s jazz or regimental history. This is not to say that the organization of education, training and staffing cannot be put on a more rational basis. Apparent anomalies cannot be entirely removed, however nor should they be.

3.3 The commodity

One problem for the outsider who is required to work in this field is its lack of definition, ie the absence of precise and generally-agreed boundaries. Which staff are covered? What kind of information is the legitimate concern of the information specialist? What activities may be included under the heading of librarianship and information work? The definition provided by the DES Census of library and information units and personnel was accepted for this survey. However this was not wholly satisfactory. By using the Census population as a basis for establishing what librarians and information workers do, large numbers of personnel, both within the coverage of the Census population and outside it, are excluded despite the fact that their work is wholly or in part concerned with the acquisition, treatment and disposal of information. An example of this (within the coverage of the Census) is provided by scientific staff in research establishments whose work may include information work (eg selection of material, translating, abstracting, indexing, information retrieval) but who will have no sense of allegiance to, or association with, the library and information profession. Even in establishments where there is a specialist library or information appointment, it is unlikely that scientific staff will wholly cease to exercise an information function. Also excluded (outside the Census coverage) are many personnel in industry, commerce and the professions (eg accountants, taxation experts, investment consultants) whose work mainly consists of acquiring and compiling information; analysing, appraising and manipulating it; making it available either in standard form for general consumption or tailor-made for the use of a particular person or group. Such personnel will not think of themselves primarily as information specialists; nor will they be so regarded by others. However their contribution must be considered when seeking to establish not merely what librarians and information workers do, but how library and information work gets done.

This difficulty in defining the library and information field appears to stem directly from the nature of the commodity handled, namely information. This commodity differs from most others in that it is not, and never can be, the exclusive province of one occupational group, but is the concern of many. Information is a commodity with which we are all concerned and which we all have to handle. This being so, it seems that the boundaries of the field can only be established by the application of fairly arbitrary rules. What is legitimately the concern of the information specialist in one situation will not be his concern in another. There is likely to be considerable overlap between the information activities of the expert and the layman. Information work is likely to remain a do-it-yourself occupation to a marked degree.

These considerations are important because of their implications for training. The need for variety and flexibility in the form and content of training is apparent. The value of short courses, particularly for teaching techniques of information presentation, handling, and retrieval, is again highlighted. The encouragement of a do-it-yourself approach by the provision of training in information-handling for the 'laity' is compatible with the development of a specialist élite. The trained librarian and information specialist can be as much an educator and consultant as a practitioner.

3.4 The problem of terminology

The terminology of this field forces one to speak of libraries and information units, librarianship and information work, librarians and information specialists etc. Where reference is made in this report to libraries or librarians only, this is not intended to single out a particular and separate category, but simply to avoid clumsy repetition. 'Librarianship and information work'

(as practised by the 'librarians' and 'information workers' in the sample) is regarded as a single service industry or activity dealing with a common commodity (namely, information) in various forms. All jobs covered in this report are 'information' jobs, and all personnel are 'information' workers, in that they are concerned in some way or other with the acquisition, handling and dissemination (in the broadest sense of these terms) of information. This applies whatever the purpose or setting involved. Cultural and recreational material is just as informative as advisory or instructional material, if one regards information as the basis for attitudes, decisions and behaviour. Similarly the person who hands a book across a counter is just as much involved in the information business as one who supplies a critical assessment of it.

This report is concerned with the 'information business' (whether it be called 'library work' or 'information work' or 'librarianship and information work') and with the staff in the sample who are involved in this business at different levels and in different ways. The project's task was to determine what these staff do, and how their tasks are combined. The research team found nothing in the course of this project to suggest the existence of two occupational areas, 'library work' and 'information work', which are quite different in nature. Such boundaries and barriers as exist appeared to be largely artificial.

4 IDENTIFICATION OF JOBHOLDERS IN THE SAMPLE

This Chapter broadly describes jobholders in the total sample (and in the public, academic and special sub-samples) in terms of the biographical characteristics of sex, age, educational and professional attainment, working experience, and original motivation towards work in this field. Women working in this field outnumber men by roughly 3:1 although there are relatively more men employed in special units (Appendix VI, Table 1). As over 75% of jobholders in the sample (with only minor differences between the public, academic and special sectors) considered that their work was equally suitable for either sex, the research team hopes to see some adjustment of this imbalance in the future.

There are some differences in age distribution between organizational types (Appendix VI, Table 2). There was a relatively higher proportion of personnel in the younger (under 25) age range in public units, in the middle age range (25-44) in special units and in the older age range (45 and over) in academic units. This pattern applied to both men and women. These distributions present an overall picture, but their possible personnel planning implications should be borne in mind by individual organizations.

Some organizational differences (partly age determined) are also apparent when considering educational and professional qualifications (Appendix IV, Tables 3-5). A relatively higher proportion of those working in academic units (22%) have both a degree and a qualification in librarianship or information work: the proportions for public and special groups are respectively 12% and 14%. Thirty-eight per cent of staff working in academic and special units are graduates, as against 24% in public libraries. Public and academic units have identical proportions (39%) of members with a professional qualification, the figure for special units being 31%. Relatively higher proportions of personnel with a professional qualification other than in librarianship or information work are found in special (16%) and academic (15%) units than in public (10%) units.

Staff working in academic units are (as a group) more highly qualified educationally and professionally and have more varied previous experience in library and information work (Appendix VI, Table 6). Fifty-four per cent have previous library and information work experience in units outside the academic field. In contrast, only 36% of those in special units have experience outside the special field, and the figure falls to 11% for public librarians with experience outside public libraries. The more varied experience of library and information work of the academic group is coupled with longer previous experience in such work. A higher proportion of staff in special units (58%) have previous job experience outside library and information work than in academic (53%) or public (42%) units.

Jobholders were asked what was their original motivation for taking up library and information work. A significantly lower proportion of those in special units claimed to have chosen to work in this field because they were positively attracted to it (39%, against 53% for public and 50% for academic units). A correspondingly higher proportion of staff in special units disclaimed any active choice in the matter: 36% of special personnel (against 25% and 27% for the public and academic sectors) felt that "it might equally well have been something else". Thirteen per cent of staff in all organizational units reported originally taking a library and information job as "the next best thing" or "as a means of avoiding something else".

A number of the features noted in this Chapter influence the question of mobility. Mobility means the willingness and ability of individual members of staff to move from one

organization to another and between organizations of different types. The research team regards such mobility as desirable for both the individual and the profession. The scope for mobility and interchange across organizational types is greater than is sometimes suggested. There is little in the nature of the work itself, or in the demands which it imposes, to prevent such interchange.

At present the traffic is mostly one way (although this trend is partly age-determined). Only 11% of the public library sample moved to their present work from academic or special units, but 45% of the academic group and 25% of the special group had benefited from public library experience (Appendix VI, Table 6). The research team hopes, and expects, some reversal of this trend in the future. Any action which raises artificial barriers to movement in, and between, the different parts of a basically unitary field is to be deplored. Further research on staff mobility is suggested. Extraction from the sample of groups of jobholders with different patterns of job experience, and the examination of these in greater depth, might be a useful starting point.

5 IDENTIFICATION OF JOBS IN THE SAMPLE

The aim of this Chapter is to convey an impression of the jobs in the sample by assigning to them a number of identifying labels – hours worked, salary, job grade, principal work area involved, nature of job involvement and any special emphasis on materials, users, subject or equipment.

The proportion of part-time jobs in the sample (14%) was lower than that in the total population because the terms of reference were mainly concerned with those in full-time employment. However it was important to include a sizeable representation of such posts because of the substantial contribution made by part-time staff to the functioning of libraries of all kinds. It was later found that part-time staff tended to be better motivated and better adapted to their work than their full-time counterparts.

The distribution of salaries for jobs in the sample (shown in Appendix VII, Table 1) has, of course, been overtaken by events, but gives the position in late 1974/early 1975. There is a relatively higher proportion of academic jobs in the highest-paid group (> £3,500), a relatively higher proportion of special jobs in the middle salary range (£2,000 – £3,499), with public and academic jobs more prominently represented among the lowest paid. These distributions are similar to those for the personal variables of age and experience.

As the survey covered posts in units of different kinds, it was not possible to take over any ready-made criteria for grading jobs. A division into professional and non-professional activities in the public field, for example, would not have made much sense in many of the special units visited. The level of jobs was therefore simply categorized as either senior or junior. Senior posts slightly outnumber junior posts in the sample (Appendix VII, Table 2), and these proportions broadly correspond to the division in the DES Census between "staff in posts for trained staff" and "other qualified staff and staff in training" against "other non-manual staff". The relatively greater incidence of senior jobs in special units is related to the smaller size of such units. In a one-man unit, for example, the likelihood is that the work will include senior tasks.

Another area of concern was how broadly- or how narrowly- based is the work area in which the jobholder is principally involved. Evidence is derived from the first part of the Job Analysis Questionnaire (JAQ) in which jobholders were encouraged to provide as full an account as possible "of the work which you actually do". Table 3 in Appendix VII demonstrates the generalist nature of jobs on this variable. Seventy-four per cent of jobs cover the whole area of technical and user services. The figure is highest (81%) in special units, with their lower mean size, and lowest (69%) in the relatively larger public units. Less than 10% of all jobs have a main emphasis upon some specific aspect of either technical or user services.

The next question considered was the type of work involved in the jobholder's principal work area: if the main emphasis is on planning library activities, supervising their execution, or carrying them out. Table 4 in Appendix VII shows the distribution of jobs in the sample according to this emphasis. A number of important points emerged:

(a) Almost two-thirds of posts are purely practitioner.

(b) Less than 2% of posts have a purely planning and/or supervisory emphasis, ie do not include a main element of library practice.

(c) There seems to be wider participation in the planning process in academic units, where 20% of jobs include a main planning emphasis, against only 12% of jobs in special units and 6% in public units.

Another way of identifying jobs is by asking whether the work involves a special material, user, subject or equipment emphasis. In deciding whether or not a job has a special emphasis of this kind, the criterion is not that the work should include some activity or activities associated with a particular material, subject, etc, but that it should wholly or largely concern such a speciality. There are difficulties in applying this criterion, particularly in the special library field. For the purpose of the presentations in Tables 5-9 in Appendix VII jobs are designated as specialist by reference to the organizational context in which they occur. Thus 19% of jobs in special units were considered to involve a further degree of specialization beyond that which was implicit in the nature of the units. This compares with a figure of 28% for both public and academic library jobs. This may mean that the definition of specialism in the special library field is rather conservative. On the other hand it would be a mistake to assume that more than a minority of jobs in the special units in the sample, particularly in industry, genuinely demand highly specialized knowledge or skills. Jobs do not automatically qualify as specialist simply because they occur in special units. The problem of measuring the degree of special subject emphasis in a job, particularly in a way which permits job comparison across organizational types, is a subject for further research.

The three job characteristics of work area, nature of involvement and special emphasis examined above may be regarded as different aspects of one important job dimension – generalism-specialism. On all three counts jobs in this field are predominantly generalist. It has been shown that functional specialism is limited, that there are few specialist managers and that subject specialists are in a minority. However this picture is changing. A number of influences are at work which are likely to increase the demand for functional specialists, for those with management expertise and for those with knowledge of particular areas. At the same time the general practitioner will still be needed. Any shift of emphasis towards specialism is important not only from the point of view of personnel requirements but from that of personnel attitudes. The introduction of specialism (of whatever kind) into a job may be seen by the jobholder as either job enlarging or as job diminishing. The investigation of such changes in job structure, and their effects, offers a promising direction of research.

6 JOB DESCRIPTION IN TERMS OF CRITICAL ACTIVITIES

Two methods of collecting information about a person's work are:

(a) To build up as complete a list as possible of the activities in which he is involved.

(b) To identify those activities which are in some way critical to performance in that job.

A full listing of the technical tasks or activities in which a person is involved is an important form of job description. It is on this form of description that the findings discussed in the last Chapter are based. However a person's work cannot be fully understood by simply summating its separate components. Information about the 'criticality' of these components assists interpretation of the technical task list. Both approaches were used in this survey.

After listing their main activities, jobholders were asked to state which of these "takes up most of your time", "do you regard as most important", "is likely to cause you most difficulty", "do you most enjoy", "do you most dislike". They were also asked to suggest "a typical snapshot of yourself at work" and to name any activity "on which you think you ought to spend more time" if more time were available. (The critical activity approach used here derives from Flanagan's critical incident technique[11] and owes much to Rodger's difficulties and distastes approach[12]. In the full report the distribution of activities regarded by the jobholder as critical in various ways is given in detail for jobs of each organizational type. In this summary report only main findings of this part of the questionnaire are noted.

Activities related to user services were more often quoted as time-consuming (41%) than were technical services activities (29%) or those concerned with organizing, running and servicing the system (12%). The distribution of activities seen as most important was very similar. Certain differences are to be noted in the responses from jobholders in different types of unit. For example, while in public units more than half of the work which is regarded as time-consuming and important is in user services activities, in academic units this total falls to a third, with correspondingly greater emphasis upon technical services activities.

When asked which activities were likely to cause the most difficulty, only 34% of respondents cited user services and only 20% cited technical services. The main reason for this is a sharp rise to 18% (constant for all organizational types) in responses which do not refer to any specific technical or library activity. These responses mention conditions (widely interpreted) of work and its organization. Examples are comments on shortage of time, space, staff, money; problems of personal and inter-departmental relationships, of communication, of procedure etc.

Activities are also critical in that they are liked or disliked. User services activities are more popular, and disliked less, than technical services activities in organizations of all types. This is of particular interest in the case of academic units where there is thus more dislike of, and less liking for, activities in precisely that work area in which most time is spent and which is regarded as most important. Over 40% of the most unpopular activities are accounted for by a few items associated with clerical and administrative routine, together with factors concerned with the conditions and organization of work mentioned earlier.

There are some interesting features about the response to the request to describe a snapshot (or typical activity) at work. One might have expected a close correspondence between what is regarded as typical and what is regarded as time-consuming. In certain cases, however, notably

in technical services, the number of times an activity was described as 'typical' fell well below the number of times it was described as 'time-consuming'. This was particularly noticeable for jobholders in academic units. One may speculate that some people may be reluctant to present, as a typical snapshot of their work, an aspect of it which they dislike, even if it is time-consuming. It must also be remembered that a typical activity, ie one which typifies the character of a person's work, may not necessarily occupy most time. Although a few jobholders had difficulty in handling the snapshot question (original to this survey) it did produce some quite vivid and dramatic responses. These contrast quite sharply with some of the uncharacteristic camera studies used to illustrate library handbooks and career guides. Considered together they convey a realistic 'feel' for "what it's like working in a library".

As might be expected, technical services activities tend to be more neglected than user services activities. The fact that user services activities are better liked may be a factor here, but a more convincing explanation is that such activities are 'at the sharp end' of library life, and that satisfying the customer in an immediate sense has to take priority. The lack of opportunity for development work was often mentioned. This covered development, publicity, extension of the service and personal development through reading, personal contact, further training etc.

The preceding paragraphs present general results from the use of the critical activity approach for sizeable groups of jobholders. This approach can also be used to identify problem areas within individual jobs and individual organizations. Taking account of what the jobholder likes and dislikes about his job and what he considers important or neglected, provides a valuable adjunct to other forms of job description. It provides what Rodger has called a 'pathological approach' – paying special attention to what is going, or can go, wrong.

Not unnaturally there is a preference for the more creative, novel and interesting types of work over the more commonplace. Jobholders must accept that all work has its more and less attractive features. However there is no reason why the less attractive features, clerical and administrative routine for example, cannot be reviewed to see how far the time spent on them can be reduced or even if some of them can be eliminated. The consequent saving of time could then be devoted to those activities regarded as neglected.

Activities which the jobholder sees as causing him difficulty show training needs of various kinds. Such training may be technical (eg how to handle particular types of enquiry) or social (eg the development of supervisory skills). It is worth emphasizing that elements which jobholders most dislike or find most difficult are often not particular activities or types of work, but factors concerning conditions of work and organization of work. These are the sort of factors which can be manipulated by job redesign, work restructuring, and improved means of communication and consultation.

7 JOB DESCRIPTION IN TERMS OF SPECIAL DEMANDS OF THE WORK AND THE WORKING CONTEXT

7.1 Introduction

Many of the personnel requirements demanded by library and information work can be fairly directly inferred from jobholders' descriptions of their main and critical activities. This Chapter aims to supplement this information by examining certain of the intellectual, social and physical demands of the work in more detail. These demands concern aspects of responsibility, contact with people and the physical nature of the work. In addition certain demands which are imposed, not by the work itself, but by the context in which the work takes place, will be examined. The environment of work also has to be taken into account when determining personnel requirements. This environment is made up of characteristics of the immediate workplace and wider social and organizational factors, as well as terms and conditions of employment. The features discussed are the pattern of work, certain aspects of communication within the organization, the physical environment in which work takes place, pay and arrangement of working hours. All these features impose demands of various kinds to which the jobholder has to adapt.

7.2 Responsibility in work

The following seven responsibility variables were considered:

(a) Freedom of choice in work.

(b) Type of supervision received.

(c) Need for/opportunity for improvisation.

(d) Independence/interdependence (ie whether work is primarily solo or team in nature).

(e) Involvement in considerations of costs.

(f) General responsibility for others.

(g) Immediate responsibility for others.

Overall, majorities of jobholders saw their work as offering freedom of choice (61%), freedom from close supervision (83%) and opportunity for improvisation (58%). Sixty-seven per cent of the sample felt that library and information work is characterized by a need for teamwork rather than by individual and solo effort. Only minorities of the sample saw their work as involving them to an important degree in considerations of costs (38%), general responsibility for others (47%) and immediate responsibility for others (41%).

Responses from jobholders in the public library sub-sample differed in a number of respects from those in academic and special units. This was most marked in the case of freedom of choice in work where only 51% of public librarians considered that they had some degree of freedom of choice to decide what work they did, or how or when it was arranged, compared with over 73% in academic and special units. Public librarians also tended, though to a less marked degree, to see themselves as more closely supervised and as relatively less involved in improvisation to meet new problems and situations. They also placed more emphasis upon teamwork as a characteristic of their jobs. However public librarians exercised relatively greater

responsibility for others (both general and immediate) than their colleagues in academic or special units. This is a function of greater organizational size in the public units, a factor which helps account for a number of the other differences in response which are noted above.

As expected, full-time jobs, senior-graded jobs, and those with a planning and supervisory emphasis showed up as more responsible. A more interesting result is the tendency to higher scores on the seven responsibility variables for jobs having a special material, user, subject or equipment emphasis, and jobs having a wide involvement over the whole area of technical and user services.

The JAQ (Job Analysis Questionnaire) offered jobholders a means not only of describing their work on the seven responsibility variables, but also of assessing how far they themselves matched the demands of their work in these respects, ie exercised the kind of responsibility which suited them. The extent of matching was high throughout. On all variables those qualifying as matched outnumbered the mismatched, the majorities ranging from 65% (freedom of choice) to 83% (type of supervision received). Of those who were mismatched, the majority would have preferred greater freedom of choice, less close supervision, greater opportunity to improvise, to act in an individual and solo capacity and to supervise others, but to be less involved in considerations of costs. The proportions of those who saw themselves as matched were consistently lower for the public library group on all responsibility variables considered. This was most marked in the case of freedom of choice in work where only 56% of staff in public units qualified as matched, against 76% for staff in both academic and special units.

The composition of the matched and mismatched groups was also compared in respect of certain personal and job variables. This showed that those in junior-graded posts and those whose main work emphasis was practitioner only were less well-matched on four of the responsibility variables considered. There was, however, some evidence to suggest poorer matching for graduates, and better matching for those with a professional qualification, in the case of certain responsibility variables. For example, on the variables of improvisation and independence/interdependence those with a degree but no professional qualification were worst matched. On the variables of freedom of choice and type of supervision received, those with a professional qualification (with or without a degree) were best matched.

7.3 Contact with people at work

Dealing with people is an important aspect of library and information work as was emphasised in this survey by the extent to which it was quoted as comprising both a best and a worst feature of the job. In common with a number of other service-oriented occupations, library and information work demands a capacity for enjoying working with people as well as the ability to tolerate a proportion of them. In the section of the JAQ dealing with the social environment of work, respondents were asked to describe the ways in which their jobs involved dealing with people. Only two of the items in this section of the questionnaire are discussed here, namely, the extent of work-determined contact with people and opportunities for informal non-work contact.

Jobholders were asked how much of their time was spent in dealing directly with people as a necessary part of their work. For over 80% of the sample, direct work-determined contact with people was a prominent feature of the job. Such contact was most marked in public libraries where 89% of staff rated their work in the 'much contact' half of the scale. For academic and special units the figures were 80% and 68% respectively. As expected, jobs where the main

work emphasis was in the area of technical services involved less work-determined contact with people than user services jobs or jobs with a main emphasis over the whole area of technical and user services.

Jobholders were also asked to make an assessment of how far they matched the demands of their work in respect of contact with people. Seventy-six per cent of the sample saw themselves as matched on this variable (ie had a degree of work-determined contact with people which suited them), with only marginal differences between public, academic and special jobholders. Those who were mismatched in the public group would have preferred less contact, but in academic and special units more direct contact would have been preferred. Jobholders with a main work emphasis in the area of technical services were also less well-matched. There was also some evidence of poorer matching in the case of graduates.

Jobholders were asked to consider the more informal, social non-work contact that takes place during working hours, eg when a member of one department passes through another department, or at tea and lunch breaks. Such contact is important from the point of view of morale. It can also provide an important means of informal communication on work matters. Opportunity for such informal contact was described as a prominent feature of the job by only 39% of the sample. While the responses from jobholders in different organizational types were closer than in the case of work-determined contact, the order was reversed. For public librarians (who had most work-determined contact) informal contact was least often a prominent feature (35%). Those in special units (who had least work-determined contact) scored more highly on informal contact (41%). More opportunity for informal, non-work contact during working hours was available to those in senior-graded jobs and to those in jobs with a planning and supervisory emphasis. In spite of the limited opportunity for overall contact of this kind, the proportion of staff seeing themselves as matched on this variable (ie having the degree of informal contact which suited them) was still fairly high (67%). The mismatched in all organizational types would clearly prefer more opportunity for contact of this kind.

7.4 Physical demands of the job

Two aspects of the physical demands of the job were considered: the physical demands of the work and the demands of the physical working environment. Work was regarded as physically demanding if, in the opinion of the jobholder, it was *particularly characterized* by such features as standing or being on one's feet, carrying or lifting heavy weights or climbing up and down stairs. Sixty-one per cent of the sample regarded their work as physically demanding in this way. However, while less than a third of those in special units so described their work, the proportion in public libraries was over three-quarters. Opinion in academic units was evenly divided. Work where the main emphasis was in user services activities was seen as making the greatest physical demands, and work involved in technical services as being the least physically demanding. Work was also more physically demanding in practitioner only jobs (compared with those with a planning and supervisory element), and in junior-graded jobs.

Jobholders were asked to describe the physical nature of their working environment by check-listing items which they found unsatisfactory under the headings of noise, illumination, ventilation, cleanliness, temperature, workspace etc. Jobholders in special units, two-thirds of whom had already described their actual work as physically undemanding, saw their working environment as more satisfactory than did academic and public personnel. While half of those working in special units listed two or more unsatisfactory environmental features, the

proportions in academic and public units were to 64% and 69% respectively. Little relationship was found between the demands of the working environment and different levels or types of job.

7.5 The pattern of work

One person's work differs from that of another not only in its technical content, the knowledge and skills it requires, its intellectual, social, physical demands, etc but in its arrangement or pattern. This arrangement or pattern may also impose important demands to which the jobholder must adapt. For example, it may be less the nature of his work that creates problems for the jobholder than the distribution of that work – "being asked to provide subject lists at the last minute", "coping with peak loads", "a lot of enquiries on an already crowded day", etc. This section attempts to look at how librarianship and information work is arranged or patterned. The aspects considered are variety in work, its regularity and predictability, its pace or tempo, changes in pace or tempo of work, the time span of attention that tasks typically demand, interruptions to work and the extent to which the jobholder is involved in activities which are not really part of his work.

Overall, large majorities rated their work as highly varied (82%), fast in pace or tempo (82%), subject to change in pace or tempo (74%), calling for short rather than long periods of attention on particular tasks (73%) and as highly subject to interruption (87%). There was a close measure of agreement between staff in different organizational types on all these variables except that public librarians regarded themselves as more subject to changes in pace or tempo. In spite of the variety, the changes in tempo and the interruptions, library and information work was not regarded as irregular and unpredictable in character. Less than a third of the sample considered themselves as involved to any great extent in activities not properly part of their own work. Nevertheless, considerable difficulties could be created in individual cases where such unpredictability or necessary involvement in other people's work occurred to a marked degree. Full-time jobs, senior-graded jobs, those with a planning and supervisory emphasis and those with an involvement across the whole range of technical and user services tended to be characterized by greater variety and irregularity, shorter spans of attention, more interruptions and involvement in activities not part of the jobholder's work. Jobs with a special material, subject or user emphasis also tended to be more varied and irregular.

The extent to which jobholders matched their jobs on these variables, ie had a pattern of work which suited them, was also examined. The degree of matching was high. The matched outnumbered the mismatched (with majorities ranging from 57% to 76%) on all variables except interruptions to work. Those who were mismatched would have preferred greater variety and irregularity in work, a slower work pace, less change in pace or tempo, fewer interruptions and the opportunity to devote longer spans of attention to particular tasks.

A summary report and a survey by questionnaire cannot do full justice to this important but complex strand in job description. However, two general points can be made about the pattern of work variables considered. First, these variables appear to comprise three elements:

(a) An element of *variety* (represented by the variables of variety in work and regularity and predictability in work).

(b) A *pace of work* element (represented by pace or tempo of work and changes in pace or tempo).

(c) A *focus of attention* element (represented by time span of attention, interruptions to work, and involvement in activities not really part of one's work).

The second general point is that all these variables can be regarded as forms of stimulus or pressure exerted on the jobholder. If work is interrupted, or subjected to unexpected changes, or calls for rapid switching of attention from one task to another, then an element of stimulus or pressure is introduced into the situation which would otherwise be lacking. This stimulus calls for a response or adjustment on the part of the jobholder which would not otherwise be required. Everyone needs such stimulus or pressure in order to function satisfactorily. However certain forms of stimulus appear to be more welcome than others. Moreover, for each type of stimulus there is a range of tolerance outside which adaptation is difficult. Too little variety, pace, etc can place unwelcome demands on the jobholder, just as too great a tempo, too many interruptions etc, can become insupportable. The problem of trying to achieve some kind of balance will be considered later.

7.6 Communication at work

One feature of the informal interviews and discussions which were held in the early stages of this project was the frequency of comments by library and information staff upon inadequacies in the information required for carrying out their work and holding down their jobs (eg incomplete or inconsistent information, information received insufficiently in advance of the need for decision and action, lack of feedback on the results of decisions). Such problems of communication were particularly acute at times of change. It is ironic that in organizations operating in the information business the information needs of information personnel should be neglected in this way.

Communication is important to both individual performance and individual morale. JAQ respondents were therefore asked to describe their jobs in terms of the information which they needed and used at work. This is not an easy topic to approach via a questionnaire, and it was only possible to do so in a simple and fairly limited way. Four aspects of communication within the organization as they affected the jobholder were considered:

(a) The receipt of information needed for actually doing one's work.

(b) The receipt of more general information.

(c) Consultation on matters affecting one's work.

(d) Consultation on matters affecting terms and conditions of employment.

The distinction between (a) and (b) is a gross simplification of a method originally used by the writer in another context[13] by which information transmitted at work can be classified according to how directly it is related to the work in hand. The distinction is not always easy to draw, but, broadly, information needed for actually doing one's work refers to information which, if inadequate, can affect individual performance in a fairly immediate sense. Inadequacies in more general information are unlikely to detract from short-term performance, but may well affect attitudes to work and working morale. The communication of information was considered to be more satisfactory in matters relating to work, (a) and (c) above, than in matters not having this direct work connection, (b) and (d). Seventy-nine per cent of all jobholders rated the information needed for actually doing one's work as adequate, and 69% were satisfied with the degree to which they were consulted and their views considered on work matters. But these adequacy figures fell to 47% where the communication of more general information was involved, and to 42% as regards consultation on matters affecting

terms and conditions of employment. Although the same pattern was exhibited by jobholders in all organizational types, the level of adequacy varied. Those working in public libraries rated the information they receive, and the degree to which they are consulted, as less adequate than did their colleagues elsewhere. The difference was only marginal in the case of information required for actually doing one's work, but the gap widened for other aspects of communication.

No differences in adequacy of information received ((a) and (b)) were found for those at different levels, or in different kinds, of job. However, those in senior-graded posts, and in posts with a planning or supervisory emphasis, rated their opportunities for consultation ((c) and (d)) more highly. Better opportunities for having their views considered on work matters were also enjoyed by those involved over the whole area of technical and user services, and by those in jobs with a special material, user, subject or equipment emphasis.

Seventeen per cent of the sample volunteered further information about the communication of information as it affected them in their jobs. This material covers the whole gamut of difficulties to which the communication process is subject. Similar comments tended to occur spontaneously at other points in the questionnaire, eg when respondents were asked to describe the most disliked or the most difficult aspect of a job.

7.7 Pay and the arrangement of working hours

Pay and the way in which working hours are arranged are discussed in this section. These are terms and conditions of employment which may influence job satisfaction. The distribution of salaries for jobs in the sample has already been discussed and is set out in detail in Appendix VII, Table 1. It will be recalled that these figures refer to the position in late 1974/early 1975. The purpose here is to assess people's reaction to their pay.

Using a simple 5-point scale, jobholders were asked, "Setting aside the fact that most people would like more money, how well do you think you are paid for the work you do?" This type of question has a long history of use in survey work, and has been shown to be reliable and valid. Sixty-five per cent of the sample considered that their pay was adequate or more than adequate for the work they did. There was a high degree of consistency in attitude between the three organizational types, although marginally more of those in special units rated themselves as highly underpaid. Almost a quarter of those earning £3,500 and over (at the time of the survey) rated themselves as overpaid for the work they carried out.

Within these broad findings, attitudes varied along expected lines. Attitudes to pay improved as actual pay increased, and were more favourable in senior-graded jobs. Men, and those with family or financial responsibilities, tended to regard their pay less favourably.

This generally favourable reaction to pay is confirmed by jobholders' nomination (elsewhere in the JAQ) of the best and worst features of library and information work. Less than 4% of comments on its disadvantages referred to pay. A handful of respondents even named it as a best feature. The conclusion perhaps is that this is a field where the prospective entrant is often warned that he will never make a fortune, and where at present he does not look to do so.

The research team was interested in the extent to which jobholders worked unconventional hours, defined as evening work, Saturday or Sunday duty, and in their reaction to this. Results show marked differences between organizational types. Proportions of staff working

unconventional hours as a regular practice were high in public (83%) and academic (75%) units, but only 14% in special units. Forty-six per cent of those in public libraries regarded evening and weekend work as unsatisfactory, 29% in academic units and 8% in special units. These findings are confirmed by later comments on best and worst features. 'Hours of work' receives more worst nominations (18%) than any other single characteristic with the exception of library routine. The bulk of these nominations comes from public librarians. There is evidence in the returns to suggest that part of the criticism levelled at unsocial hours by public librarians was triggered by the publicity the topic has received in recent years.

Supplementary comments by jobholders illustrate that whether such unconventional hours are seen as convenient or inconvenient depends in part on the particular domestic circumstances and leisure habits of those involved. Free time in the middle of the day, or days off in the middle of the week, can benefit one person, but be socially disruptive to another. A further important factor determining attitudes to unconventional hours of work is the sense of personal control or lack of control over the situation experienced by the jobholder.

7.8 Conclusions

This Chapter has considered certain of the intellectual, social and physical demands of librarianship and information work, and some of the demands imposed by the environment of work. The general picture which emerges is of work and working conditions that are fairly stimulating and demanding; of an 'out front', 'in the thick of it', service-oriented occupation. Although examples can be found which do not fit this pattern, this picture dispels any lingering image of libraries and information units as havens of cloistered quiet. In considering the types of behaviour and the kinds of adaptation needed, the workforce is seen to be relatively well-matched and well-adapted to these demands. It would have been surprising had results of this kind not been found if one bears in mind findings for other occupational groups and the professional character of this particular group. Of more interest than the generally favourable picture that emerges, are those aspects of the job for which lowest adaptation and matching occurs, and those minorities of jobholders who exhibit lower levels of adaptation and matching. What action can be taken about these?

One set of pointers comes from those *aspects of the job on which majorities of the sample commented adversely* , such as interruptions to work, physical demands and inadequacies in certain types of communication. One problem here is to separate out those elements which are inherent in the nature of library and information work, and those which are not. Even in the case of features which appear to be inherent, eg interruptions to work and the physical demands of work in the public field, organizational analysis and systematic job redesign can do much to ease these problems for individuals. Physical environmental problems may also be inherent in those situations, common enough in the library and information field as elsewhere, where premises are patently unsuitable for the use to which they are being put and where economic considerations make a fundamental change in the near future unlikely. Yet here again, a systematic approach to job redesign and the lay-out of workspace can make existing conditions tolerable and increase efficiency.

Lack of information and lack of opportunity for consultation are different matters altogether and need a different approach to staff management. Possible reasons for communication failure are numerous. Management may simply be unaware of the problem; they may simply not be information conscious in this sense. They may be aware of the need, but feel that they have neither time nor resources to meet it. There may be personal and inter-personal obstacles.

The machinery for discussion and consultation may not exist. Such machinery may exist, but only token consultation take place. Whatever the reasons, it cannot be stressed too strongly that there is no inevitability about inadequacies in internal communication, and that failure to deal with them leads to lowered staff morale and staff performance. In the present context, consultation might begin at a fairly simple level by involving staff in the job redesign mentioned above.

Further pointers for action are provided by looking at the *direction of preference expressed by the mismatched*. The pattern of work provides an example. In general, those who saw themselves as mismatched in the pattern of work preferred greater variety in their work, but a less demanding work pace with fewer fluctuations, fewer interruptions and the chance to devote longer spans of attention to particular tasks. The introduction of greater variety involves considering the possibilities for work restructuring and job enlargement. The possibility of reducing the tempo of work and allowing longer spans of attention is a different matter. A fast work pace, a varying work pace, the rapid switching of attention from one task to another may be fundamental aspects of the job. If a jobholder is unable to cope with the demands which they impose, he may be genuinely misplaced. However it is worthwhile examining what economies of effort can be introduced through job redesign.

In the case of responsibility variables, preference was expressed for greater responsibility of various kinds; more freedom of choice, less close supervision and greater opportunity to improvise and to act in a solo capacity. Work restructuring and job enlargement techniques should be considered in order to try to meet this desire to use individual initiative. This applies at all levels, including the most junior. It especially applies in situations where duties have been rigidly divided into professional and non-professional categories.

The response from the public library sub-sample was less satisfactory in a number of ways than the response from the special and academic units. Scores for public librarians tended to be lower on a number of responsibility variables and there was a lower level of matching on these, communication tended to be less adequate, and so on. It should be remembered that these results were obtained within a year of local authority reorganization, and that in time attitudes towards a new system tend to improve and the more serious creases in a new system are likely to be ironed out. Nevertheless, the more detailed criticism from public librarians (in the main report) is worth examining for clues to more persistent problems. For example, local government reorganization appears to have reduced the degree of responsibility, variety, etc in many jobs, and to have thrown up fresh problems of communication in larger and more complex organizational structures.

8 JOB DESCRIPTION IN TERMS OF CHANGE

8.1 Introduction

"It is difficult to describe any job and discover what it calls for in employee behaviour, but unusually so for managerial jobs because they change so much."[14] This observation on the difficulties of job analysis in the case of one occupational group might well be extended to cover jobs in the whole of the library and information field. At the time when this project was launched there had already been considerable discussion about the roles which librarians and information specialists should play, about new technology and new forms of work organization. Moreover, the period of the research itself witnessed a number of major organizational upheavals including local authority reorganization, the creation of the British Library and the recasting of the non-university sector of higher education.

When using a survey, one way of handling the problem of change is by ensuring that the sample examined at one point in time is large enough, and representative enough, to catch within its net organizations and jobs at different points of transition and development. In the main report the care with which sampling was effected is described. This method can be supplemented by asking each jobholder to describe his job in terms of change. One section of the Job Analysis Questionnaire was devoted to this. Four types of job change were considered: past, and possible future, change in the work done or in the method of carrying it out, and past, and possible future, change in terms and conditions of employment.

8.2 Extent of change

Sixty-two per cent of the sample had experienced a change of some kind in their work during the previous twelve months, although only 42% rated such change as considerable. Less than a third reported past changes in terms and conditions of employment. Just over a third of the sample anticipated some change in their work or working methods over the next twelve months, although only 10% thought an accompanying change in their terms and conditions of employment likely. Past work change was most marked in public units where 65% of staff reported such change, and least so in academic units (56%). Relatively more of the special unit sample anticipated future changes in work (43%).

More work changes had been experienced, and more were anticipated, by full-time staff, those in senior-graded jobs, and those in jobs with a planning or supervisory emphasis. Senior, planning and supervisory staff also tended to be more affected by changes in terms and conditions of employment.

8.3 Nature of, and reasons for, change in work

Information on the kind of change involved, and the reasons for it, was sought in the JAQ through short checklists. The response to these is presented in Appendix VIII, Tables 1-4. A number of points should be noted. It is clear, for example, that the principal kind of work change experienced, and anticipated, involves undertaking additional duties and responsibilities. The main reason for this is organizational growth, development, rationalization, etc. Comments under "other reasons for change" show staff shortages to be an important contributory factor behind the heavier workload which staff have already assumed, or are

likely to assume, in the near future. Throughout this project, members of the research team were considerably impressed by the desire of staff, particularly in public libraries, to maintain and improve levels of service, and by the readiness of many to assume additional personal work loads in order to meet these aims.

A further point of interest in Tables 2 and 4 in Appendix VIII is the comparatively modest extent to which technical change is quoted as a reason for past, and possible future, change in work. Of those jobholders who had experienced change in the past year only 7 % (59), evenly spread over the organizational sub-groups, indicated that this was due to technical reasons. Turning to possible future change in work, only 10.4% (48) of those who anticipated change in the next twelve months saw this as being due to technical reasons. Again, differences between jobholders in different organizational types were only marginal. Expressed as proportions of the total sample these results show that less than 6% of jobholders considered that their work had been affected by technical developments over the previous year, and that less than 5% thought such change likely in the year to come.

These findings about the limited impact of technical change are reinforced by examination of jobholders' listing of their main activities. These activity lists were analysed for evidence of computerization. A distinction was made between jobs in which the main emphasis was an involvement with computers, and those in which the computer involvement was secondary. Only 1% (10) of all jobholders described work in which the main emphasis was an involvement with computers. A further 3.9% (39) of jobholders described their work as including some element of computer work. A dozen jobholders specifically mentioned the computer in describing their critical activities, considering that its effect helped to make certain activities the most time-consuming (4), important (5), difficult (7), liked (3) and disliked (5). Further supporting evidence of the limited impact of technical change comes from an analysis of advertisements for vacant library and information work posts which appeared over a period of five months during the project. Discounting overseas jobs and temporary appointments, advertisements and further particulars of 625 posts were inspected. Of these only 39 (6.2%) involved computerization.

8.4 Attitudes to change

Jobholders' views on past and likely future changes were also sought, in respect of effects on individuals (eg "Has this improved things from your point of view or made them worse?") and, in the case of changes in work, effects on job efficiency. The effect of both past and future change "on you personally" was viewed favourably overall, by about 60% of the sample in the case of work, and by about 75% in the case of terms and conditions of employment. The effects on individuals of past changes in work were viewed least favourably in public units (54%) and most favourably in special units (72%). About half the total sample thought that past change had resulted in (or that future change would result in) greater efficiency. More staff in special units (63%) thought that past changes in work had made for greater efficiency, and that future change would do so (65%). Public librarians were least convinced of the usefulness of past change (40%), and less sanguine about the advantages of future changes (49%).

8.5 Determinants of attitudes to change

As well as the differences in response from jobholders in different types of organization,

attitudes to change varied in relation to certain job and personal characteristics:

(a) Younger members of staff, junior grades and those without planning or supervisory responsibilities tended to regard the effects on them of past work changes more favourably than their older and more senior colleagues.

(b) Shorter-service staff and graduates viewed the likely effects of future work change on them more hopefully.

(c) Those in senior-graded jobs considered that past change had made for greater efficiency, and that future change was likely to contribute to this.

Another possible determinant of attitudes to change is the amount of change which has taken place. The extent of past work changes was considered in relation to the jobholder's views as to the effect of this change "on him personally" and on efficiency: significant associations were found in both cases. These indicated that those who had experienced greater change held stronger views about its effects: but the amount of change did not itself determine whether such views were favourable or unfavourable. The direction of attitudes to change (for or against) is more likely to be influenced by the nature of the change involved and the reasons for it. The extent of multiple responses (in which jobholders referred to changes of various kinds or to various reasons for change) make it impossible to tie attitudes to change directly to particular items in the checklists in Tables 1-4, Appendix VIII. However, the responses do provide clues as to the way in which attitudes may be influenced. For example, change may be more or less favourably regarded according to whether it involves greater or less specialization, or whether additional duties and responsibilities have been assigned to the jobholder or acquired on his own initiative. Change of work resulting from promotion, or from a planned training transfer, is likely to be regarded differently from a re-allocation of duties in an enforced organizational reshuffle. Also relevant are jobholders' comments in response to an opportunity provided to make free observations on changes they would like to see introduced. A third of their suggestions concerned aspects of staffing or the use of staff. The issue of undermanning was stressed, and, in the public sector in the aftermath of local authority reorganization, the disadvantages of size.

The analysis above has isolated some of the factors which help determine attitudes to change, and which discriminate between those who make favourable/unfavourable ratings. However this is obviously not the whole of the story. Other important factors are individual differences in tolerance of change and how the various factors considered occur in association. More important still is the question of how change is introduced in an organization. The unlikeliest change can be made acceptable by careful presentation: the most innocuous measure can produce resistance if those who introduce it take its acceptance for granted. This is an area which might usefully be examined more closely in the library and information field, particularly if such an examination could be made concurrently, rather than retrospectively.

9 OVERALL MEASURES OF ADJUSTMENT OR ADAPTATION TO THE JOB

At various points in the preceding Chapters the jobholder's reaction to specific aspects of his work and job (eg the element of variety, the opportunity for consultation, the degree of change) have been noted. A number of items in the JAQ were also concerned to assess the jobholder's general satisfaction with, and adjustment or adaptation to, his work, his job and his profession. The present section examines these overall measures of matching between job and jobholder.

9.1 Attitude to work

Respondents were asked to give a description of their work by itemizing critical activities. They were then asked if, on the whole, their present work gave them a chance to do the kind of thing at which they were best. In this question jobholders were being asked to consider their work as a whole, including specific tasks which they disliked or found difficult. Seventy-eight per cent of the sample felt able to give a positive answer to this item. Public librarians, although their response as a group was favourable, tended to score relatively lower than staff in academic and special units.

Attitude to work (ie the perceived suitability of a person's work) tended to improve with age, length of service in present post and length of experience in library and information work. Similarly, those in senior-graded posts, and those with planning or supervisory responsibility, viewed their work more favourably. Other factors contributing to relatively greater satisfaction with, or adaptation to, work were working part-time, having actively chosen to work in this field, and, in public libraries, working in a post with a special material, subject, user or equipment emphasis. Graduates (by comparison with those without a degree) considered that their present work gave them insufficient scope to do the kind of things at which they were best.

Evidence on the favourable attitude to work overall, which was obtained in response to this question, was confirmed by the fact that only a minority (36% overall) indicated that another type of work would give them greater satisfaction. (This proportion was highest in public units at 43% and lowest in academic units at 27%.) These figures include, of course, jobholders who see their present occupation as a stepping stone to something else: statement of a preference for a different kind of work does not necessarily imply dissatisfaction with, or unsuitability for, present work. Two features characterize the direction of preference for other types of work. One concerned work with more direct user contact (eg on the part of those mainly occupied in technical services areas). The other involved a preference for a different or a more specialist material, subject or user emphasis.

9.2 Attitude to the job

The terms job, or post or position have been used in this survey in an inclusive sense to cover both the work which a person does, and the total context in which the work is carried out. Work only was examined in the early part of this Chapter, but the following paragraphs concern the job as a whole. Jobholders were asked to take everything into account and assess how satisfied they were with their present posts. This calls for a wider judgement concerning matching or suitability. Reaction was again generally favourable, with 70% of the sample rating their overall level of satisfaction with their present post in the upper (favourable) half of the

scale. This level of satisfaction is lower than that already quoted for satisfaction with present work. The effect of taking factors from the working context into account is to reduce the overall level of satisfaction. The reduction is constant for all organizational types. Job attitudes were marginally less favourable in public units.

Personal and job variables associated with job attitudes were consistent with those noted above for attitude to work. Satisfaction tended to improve with age, and was relatively higher among part-time staff, those who had actively chosen to work in this field, and, in public units, those with a special material, subject or user emphasis in their work. Attitude to the job, as in the case of attitude to work, was again relatively less favourable among graduates than for those without a degree.

9.3 Attitude to library and information work

A number of items in the JAQ were designed to elicit information about jobholders' attitudes to the 'profession' or to the occupational field as a whole. They were asked whether library and information work had turned out as they had imagined it would, and how likely they were to continue working in the field. Attitudes continued to be largely favourable . For 57% of jobholders in the sample, work in this field had bettered their original expectations of it, and 49% would not want to work in another field. For only 7% had library and information work failed to match their prior expectations of it, and only 5% would prefer to work in another field altogether.

Although library work had turned out less well (relative to the position for jobholders in academic and special units) for public librarians, a higher proportion of public library staff claimed not to want to work in any other field. One can only speculate on the reason for this apparent conflict. It may be that, in general, public librarians feel so committed to their work that, even with its disadvantages, they would not want to move outside it. On the other hand, it could be argued that with their more limited (as a group) educational and working experience, they are less able to do so.

9.4 Best and worst features of a job in library and information work

Jobholders' general attitudes to the profession were sought by asking what they would point out to a prospective entrant as the best (worst) feature(s) of a job in library and information work. Even although these items came at the end of a long questionnaire, they produced a high response rate (92%) and well over 3,000 comments on good and bad points. Features seen as favourable and unfavourable are summarized in Tables 1 and 2, Appendix IX. If one uses these comments as a general measure of how librarians and information specialists regard their chosen field, then their overall attitude is favourable, without being overwhelmingly so. Positive comments outweigh negative by 57% to 43%. The strength of attitudes in different organizational groupings is fairly similar. The majority of best features (Table 1, Appendix IX), over 80% for each organizational grouping, are those which are intrinsic to the work itself. (Factors associated with working conditions and terms and conditions of employment account for only 8.7% and 6.9% of favourable comments respectively.) Prominent among these intrinsic or work-centred factors are variety, involvement with people, a sense of service and social worth, intellectual satisfaction and the opportunity for personal development.

On the negative side (Table 2, Appendix IX), work-centred factors contribute only half of the unfavourable comments, with a correspondingly increased emphasis upon unsatisfactory

working conditions and terms and conditions of employment. Prominent worst features were work routine; the physical demands of work; difficulties of, and lack of involvement with, users; lack of status and the length and arrangement of working hours. Some organizational differences are apparent in the emphasis given to the different worst features. Comment upon the physical demands of work and on the inconvenient arrangement of hours of work were particularly stressed in public units.

Another way of examining organizational differences with regard to the negative aspects of library and information work is to pool work and working conditions factors, and to set these against terms and conditions of employment factors. This gives:

	Public %	*Academic* %	*Special* %
Work and working conditions factors	66.0	71.8	83.7
Terms and conditions of employment factors	33.2	26.7	13.9

Those in special units place more emphasis on work and working conditions factors than do public librarians in commenting on the negative aspects of library and information work. The opposite is true with regard to terms and conditions of employment. The views of those in academic units lie between those in other units.

9.5 Conclusion

In considering jobholders' overall attitudes to work, job and 'profession', one notes a workforce that is generally satisfied and well-adjusted. This supports the evidence already presented regarding the relatively high degree of jobholders' matching and adaptation on specific aspects of the job. This is the general picture that was expected. Here, as in the case of specific aspects of the job, what is important is the size and composition of the less satisfied and less adapted minorities, the scope this offers for improvement and the pointers provided to the direction which such improvements might take.

Some suggestions have been made earlier about what might be done to foster and build in to jobs the features which contribute positively to job satisfaction, and to eliminate those which have a negative effect. Further indications may be derived from a consideration of jobholders' views of best and worst features. A systematic programme of organizational analysis, work restructuring and job redesign is needed. Some training and retraining may be involved; improvement in internal communication and consultation most certainly will be. In the main this does not involve moving people from one post to another or involve reselection and reallocation. Rather it involves making existing posts more satisfying and satisfactory. It is appreciated that such measures take time and resources. Moreover, in a service situation, the user has to take immediate priority. At the same time, job redesign, retraining and consultation mean a more effective use of staff and, by implication, a better service to the user.

10 STAFFING AND THE ROLES OF MEN AND WOMEN

10.1 Introduction

At various points in this report the ways in which jobholders' descriptions of particular aspects of their job varied according to the type and level of job and on the basis of particular personal characteristics have been examined. This Chapter considers one personal characteristic, that of sex, in more detail. The analysis first compares the educational and professional attainment of men and women, then holds this variable constant in order to examine the relative position of men and women in respect of their job grade, planning or supervisory responsibility and salary.

10.2 Analysis of educational and professional qualifications by sex

Educationally and professionally, men in the sample were more highly qualified than the women. Relative proportions were as follows:

(a) With a degree and a professional qualification in librarianship or information work: men 24%, women 11%.

(b) With a degree only: men 22%, women 14%.

(c) With a professional qualification only: men 33%, women 19%.

(d) With neither a degree nor a qualification: men 21%, women 56%.

The difference in educational and professional attainment between the sexes is most marked in academic units where 57% of women, but only 10% of men, have neither a degree nor a professional qualification. It is least marked in special units where 50% of women and 32% of men have neither degree nor qualification.

10.3 The job grades of men and women

The job grading (senior or junior) of men and women who are similarly qualified was examined using the four qualification categories (a) – (d) above. For the sample as a whole there is no significant difference between the job grading of men and women who are professionally qualified (whether with or without a degree). However only 56% of women with a degree only hold senior posts, against 73% of their male counterparts. Amongst those with neither a degree nor qualification, men are more likely to hold senior-graded posts (36% men: 12% women).

The position varies to some extent in different types of units. The following categories of women are at a disadvantage, relative to men, as regards job grade:

(a) In public units, those with a degree only.

(b) In academic units, those with a degree only and those without a degree or qualification.

(c) In special units, those without a degree or qualification.

10.4 Planning and supervisory responsibility

This section examines the extent to which the work of men and women with similar

educational and professional qualifications contains a main planning or supervisory emphasis (or is practitioner only). Taken overall, a man with a degree, with a professional qualification, or both, is more likely than a woman to be engaged in planning or supervision. Only in the case of those without either degree or qualification is there no difference between the sexes: almost 90% of these men and women are mainly engaged in practitioner activities.

The direction of these findings is consistent for all organizational types, but the job differences between the sexes are most marked in academic units (and least marked in special units). In academic units, 80% of men with a degree only are involved in planning or supervision against 20% of women. Of those without degree or qualification, 33% of men (against 8% of women) in academic units have planning and supervisory responsibility.

10.5 The salaries of men and women

The salaries of men and women holding similar educational and professional qualifications were compared for the three categories $<$£2,000, £2,000 - £3,499, and $\geq$£3,500 (late 1974-early 1975 rates). With the exception of those without degree or qualification in public libraries, women were more poorly paid than men at all educational and professional levels and in all types of organization. Differences in salary distributions for men and women holding similar educational and professional qualifications were least marked in public libraries. The salary gap was widest in academic units.

10.6 Conclusions

Women, who outnumber men by three to one in library and information work, have (as a group) a lower level of educational and professional attainment, and it might therefore be expected that their level of job responsibility would be lower. However, the analysis in this Chapter shows that when men and women of the same educational and professional attainment are compared, women are still at a disadvantage. They are more likely to be found in junior-graded and practitioner-only posts and to be less well-paid.

The fact that women, on the whole, tend to be younger and have less experience than men, modifies the conclusions drawn in this Chapter but does not affect their general direction. It is of interest to note that, in spite of the under-utilization of women in senior positions, women did not appear to perceive themselves as discriminated against. Their level of satisfaction with their work, job and 'profession' was on a par with that of the men. Now legislation, and changing attitudes to (and by) women in employment, may create more opportunities for women in library management positions. The research team would certainly look for this, particularly in view of the fact that more than three-quarters of the sample considered their work equally suitable for a man or a woman.

11 STAFFING AND THE ROLE OF GRADUATES

This Chapter considers a further personal characteristic in more detail, that of educational and professional attainment, particularly with reference to the employment of graduates in library and information work. At various points in this report it has been noted that graduates were less well adapted than non-graduates. (This applies particularly to the degree only group.) Thus, graduates considered that their present work gave them less scope to do the kind of things at which they were best. Their overall attitude to the job was somewhat less favourable, and those with a degree only were least committed to the 'profession'. There was also evidence of poorer matching on the part of graduates on certain responsibility, contact-with-people and pattern of work variables.*

One explanation of this could be that the level of expectation of graduates is pitched too high. Expansion of educational opportunities and a general increase in standards of educational attainment has led to a raising of the level of what people expect from working life. However job opportunities and job horizons seldom expand at a pace which is able to meet these expectations. Moreover, there may be a tendency in parts of the profession to exaggerate what some library jobs have to offer and the personnel requirement necessary. A second explanation may be that graduates, to a greater extent than non-graduates, may genuinely tend to be misplaced, employed in inappropriate posts, given insufficient responsibility etc. This possibility of under-utilization was examined by comparing the position of graduates and non-graduates in relation to job grade, planning or supervisory responsibility and pay.

Thirty-eight per cent of staff with a degree only are employed in junior-graded posts (compared with 4% of those with a professional qualification only and 3% of those with a degree and qualification). A sizeable contribution to the figure of 38% comes from the public library field, where one is presumably dealing with young graduates undertaking a year's practical work before going to library school. Even in academic and special units, where this is likely to apply only to a minor extent, the figure is 17%. Less than a third of graduates with a degree only are engaged on work which is mainly concerned with planning or supervision. Seventy-one per cent of those with a degree only are employed in practitioner only posts. Comparable figures in practitioner posts for the professional qualification only and the degree and qualification groups are 21% and 29% respectively. Forty-eight per cent of those with a degree only were in the lowest of the three salary bands, ie earning less than £2,000 in 1974-75. Only 9% of those with a qualification only were in this salary band and 13% of those with a degree and qualification.

The fact that those with a degree only comprise a younger and less experienced group has to be borne in mind when interpreting these results. Nevertheless, there remains evidence to show that this group is operating at some disadvantage as regards job grade, managerial responsibility and salary. No major differences in these respects are apparent between the positions of those with a qualification only and those with a degree and qualification.

A third and final explanation of graduates' lower level of satisfaction and adaptation lies in the possibility that much of the work available does not call for a graduate qualification. Evidence on this point comes from a part of the questionnaire in which jobholders were asked to

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* It should be remembered when less favourable attitudes on the part of a particular group are discussed, that these are in relative terms. Graduate attitudes may still be largely favourable, although significantly less favourable by comparison with non-graduate groups.

provide a personnel specification for their own job. Jobholders were asked to specify what sort of person they would look for if they were about to leave their present post and had been asked to select their replacement. The checklist which followed this item included the level of educational attainment thought to be necessary. The findings so far as graduate level is concerned are summarized below.

	Public %	*Academic* %	*Special* %	*All* %
Having a degree and thinking it necessary (= appropriately qualified)	8.1	30.0	25.9	17.1
Having a degree and *not* thinking it necessary (= overqualified)	15.7	8.6	12.6	13.4
Having *no* degree but thinking one necessary (= underqualified)	6.8	9.5	11.3	8.5
	n = 541	n = 210	n = 247	n = 998

Figures are expressed as proportions of the total sample (excluding missing observations).

Text Table 1 Matching of jobs and jobholders on level of educational attainment (degree level)

Almost 26% of the sample specified the need for a degree as necessary in their own job. This figure is lower than the 30% of graduates in the sample. However these figures for the total sample conceal marked differences in response by organizational type, as shown in Text Table 2.

	Percentage specifying a degree as necessary	*Percentage with a degree*
Public	14.9	23.8
Academic	39.5	38.6
Special	37.2	38.5

Text Table 2 Responses by organizational type

In academic and special units there is a balance between the proportions with a degree and the proportions thinking one necessary. In public units there is not only a lower proportion of graduates, but an even lower proportion of staff who think the work calls for a graduate qualification. The picture is further complicated by the fact that the proportions of those who consider a degree as necessary to their job are composed partly of graduates (who therefore see themselves as appropriately qualified) and partly of underqualified non-graduates. (Thus the figure of 25.6% overall who specify the need for a degree is made up of 17.1% appropriately qualified graduates and 8.5% underqualified non-graduates.)

If one accepts jobholders' own estimation of the situation, it appears that:

(a) In academic and special units there is a balance (at about 40%) between the supply of graduates and the number of graduate type jobs available. There is also evidence of misplacement of staff (ie graduates employed in non-graduate type work and non-graduates employed in graduate type work).

(b) In public units, not only does the supply of graduates exceed the number of jobs thought to call for a graduate qualification, but some of these more limited graduate type jobs are occupied by non-graduates.

Text Table 1 shows that 13.4% of staff in the total sample were graduates who saw themselves as overqualified. The impact of this figure (and the differences in organizational response which it conceals) is further highlighted if the results are expressed as proportions of those with a degree (instead of as proportions of the total sample).

	Appropriately qualified %	*Overqualified* %	
Public	34.1	65.9	n = 129
Academic	77.8	22.2	n = 81
Special	67.4	32.6	n = 95
All	56.1	43.9	n = 305

Text Table 3 Matching of jobs and jobholders with degrees

While something approaching half of the graduates in the total sample see themselves as overqualified for the work they do, this proportion is dramatically higher in the public field than in the academic or special. Finally, it should be remembered that the picture presented here is as of now. Jobholders described what they do now, expressed attitudes to their present work, specified personnel requirements to meet present job demands, etc. Enlargement of existing jobs, and the creation of jobs through new departures in librarianship and information work, could change this picture.

12 CLASSIFICATION OF JOBS BY CLUSTER ANALYSIS

One purpose of the standardized JAQ was to permit the classification of library work and jobs, such classification being based on the scoring of each job against more than fifty job characteristics itemized in the questionnaire. The analysis presented earlier in this report, consisting of a description and comparison of jobs with respect to particular variables (or sets of variables), permits a classification of a kind. For example, it is possible to classify the sample of jobs in relation to the characteristic of change, or responsibility or social demand. However, the research team was also interested in a classification which takes into account at the same time, all, or a number of the most important, job characteristics included in the questionnaire. This involves the identification of groups of jobs which have the same or similar scores on these job characteristics.

The techniques of analysis which have been developed in recent years to deal with this kind of problem, are covered by the general term of 'cluster analysis'[15]. They permit a set of objects (eg jobs) to be compared simultaneously on a number of dimensions. The aim is to arrive at more or less homogeneous clusters of (in this case) jobs whose composite scores on the variables considered are similar within clusters and different between clusters. A detailed account of the steps employed in this analysis, including a note on the program used, is given in the main report.

Over 50 variables were treated in the JAQ and 14 were selected for the analysis reported in this Chapter. Variables chosen were those considered to be most valid (ie factors which tell us most about the demands of the job and so about the personnel characteristics required) and most reliable (ie those which appeared to have been best understood and handled by respondents). The 14 job variables chosen are listed below. The numbers in brackets enable each variable to be identified in Appendix X, Table 1.

- Two training time identifiers:
  - level of educational attainment thought to be necessary (4),
  - length of experience thought to be necessary (5).
- Two technical identifiers:
  - work area in which the jobholder is principally involved (1),
  - whether or not the job has a special material, subject, etc emphasis (2).
- Three responsibility descriptors:
  - whether the job has a main planning and/or supervisory emphasis (3),
  - the freedom of choice involved (6),
  - the degree of improvisation involved (7).
- The social demands of the work (12).
- The physical demands of the work (13).
- Three pattern of work descriptors:
  - variety (9),
  - pace or tempo of work (10),
  - focus of attention in work (11).
- Two other conditions of work factors:
  - whether the work is primarily team or solo in nature (8),
  - degree of change in work and working methods (14).

These factors offer a means of describing jobs according to the intellectual, social and physical demands of the work, and according to certain conditions of work to which the jobholder must adapt.

One characteristic of the program used in the cluster analysis is that it is unable to take account of cases in which there is a non-response on any of the variables. The effect of this was to reduce total sample size by 19% to 820. This reduction did not significantly affect the representation in the sample of jobs in different types of organization, or of senior and junior jobs.

One of the problems associated with clustering techniques is that of achieving comparability where the factors under consideration have been measured in different ways. In the present case this problem was handled by presenting the data in binary form. This involves scoring the responses on each variable as either/or (ie characterizing the job by the presence or absence of a particular attribute). The left-hand column of Table 1 in Appendix X lists the 14 variables, and briefly sets out the form in which they were presented.

A further problem associated with clustering techniques is that of deciding in advance how many clusters should be formed. In theory, at least, any number between one and the total sample size is possible, but there are clearly practical reasons why the number should be kept within bounds. In the present case it was decided that the population of jobs covered was best represented by classification into 15 clusters.

A general guide to the character of each of the 15 clusters is provided in numeric form in Appendix X, Table 1. This sets out the value of cluster 'centroids', or average scores, on each of the 14 variables, and enables differences between clusters to be seen and the nature of individual clusters to be assessed. When making comparisons *between* clusters, the cluster values for any one variable can be examined against each other or against the mean value for that variable for the total sample. These centroid values range from 0 to 1. Thus in the case of variable 9, variety in work, clusters 2 and 9 have maximum variety scores, cluster 8 has a zero variety score, while cluster 14 is about average. Cluster 5, with a centroid value of 0.50 on variety, is slightly above average, and this figure also indicates that the members of this cluster are evenly divided between varied and unvaried jobs.

By looking at the values *within* a cluster, and comparing these with the mean value for the total sample, the particular characteristics of that cluster can be identified. An attempt has been made in Table 2 in Appendix X to draw out the main characteristics of each cluster by indicating with a plus or a minus sign those variables on which the cluster shows a marked tendency in one direction or the other. Thus a plus sign would indicate a much higher than average proportion of varied jobs in the cluster on the factor of work variety.

In the main report each of the 15 clusters is individually discussed and examples provided. Some clusters are more readily recognizable than others in workaday 'library' terms. In the present abridged version it is only possible to describe them in more general terms. The 15 clusters fall into three main groups: those scoring high (group I), intermediate (group II), and low (group III) on training time (ie the level of education and/or length of experience required) and degree of planning and/or supervisory involvement.

The members of the first group (clusters 2, 7, 8, 10 and 14) are high on training time (ie above average on the need for education and experience) and predominantly include a main planning or supervisory emphasis. These are jobs calling for the exercise of middle to upper management

skills, and characterized to varying degrees by other kinds of responsibility and by demands imposed by the environment in which work takes place. The research team's assessment of the demands of these jobs broadly agreed with their actual grading: proportions of senior-graded jobs in the clusters were found to range from 86% to 100%. (See Table 3, Appendix X.) At the other end of the scale (group III) are four clusters (1, 4, 5 and 6) whose members are low on training time and whose jobs are predominantly practitioner in nature. A check on the actual grading of these jobs shows that from 74% to 91% are rated as junior. Between these extremes is an intermediate (group II) group of clusters (3, 9, 11, 12, 13 and 15) whose scores on training time and on management involvement may be described as neutral to low. While these scores put them closer to group III than to group I, they are clearly distinct from it. The percentage of senior-graded jobs in these clusters is of interest, ranging widely from 30% to 76%. The clusters in this group caused the most difficulty when an attempt was made to distinguish one from another. The cluster centroids for the variables of education, experience and nature of job involvement, together with the proportions of senior-graded jobs in these groups of clusters, are set out in Table 3, Appendix X. The number of cases is distributed fairly evenly over the three groups – 33.2%, 35.5%, and 31.3%.

Results from the cluster analysis provide further evidence on the questions, already discussed in Chapter 11, of how appropriate jobholders' qualifications are for the work involved, and of the use made of staff qualifications and experience. Table 3, Appendix X suggests that no very clear or consistent views exist about the demands and personnel requirements of a wide middle-ground of jobs. This is shown by the range in the proportions of jobs, in the clusters in group II, which in practice are graded either senior or junior.

The same Table also suggests that after the 'top five' job clusters in group I, there is an abrupt falling away, rather than a gradual diminution, in job demands and job responsibility. Yet it is common to find in group II (and even in group III) jobs which have been senior-graded, ie which by implication are regarded as requiring reasonably high levels of educational or professional qualification or experience. Such senior-graded posts, which appear to impose fairly modest demands, comprise 21.6% of the total sample. (This figure is almost identical to the 20% of jobholders who considered that their present work did not give them an opportunity to do the kind of things at which they were best.) The evidence, then, is that a sizeable minority of the jobs available do not call for the level of education, training or experience at present associated with them. This implies an underutilization of educational and professional talent, and not only at graduate level.

One expectation of this analysis was that jobs from all types of organization would be found within the same clusters. In fact, one object of the whole exercise was to determine similarities in demand between jobs which were technically different and which occurred in different organizational settings. Nevertheless, on examining the type of unit to which jobs in the various clusters belong, it is clear that organizational type is one determining factor in the formation of clusters. There are clusters in which public library jobs predominate, others which are particularly academic or special in character. In others there is a balance between jobs from the three main organizational types.

Tables 4 and 5 in Appendix X illustrate the influence of organizational type in the formation of clusters. Table 4 shows the proportions of public, academic and special jobs in each cluster and compares this with the distribution of such jobs overall. Table 5 makes the same point by showing the ratio of jobs of each organizational type in the clusters to those in the sample overall. The balance or imbalance of public, academic and special representation in the clusters reveals something about the possibilities for mobility from one type of organization to another. Overall, the scope for such mobility is considerable.

The representation of public, academic and special jobs in group I clusters closely matches that in the total sample:

	Public %	*Academic* %	*Special* %	
Group I clusters	51.5	21.7	26.8	n = 272
Total sample	54.5	20.6	24.9	n = 820

A higher than average proportion of special unit jobs are found in group II, and a lower proportion of public unit jobs:

	Public %	*Academic* %	*Special* %	
Group II clusters	41.6	23.4	35.0	n = 291

Public library jobs feature most prominently in group III:

	Public %	*Academic* %	*Special* %	
Group III clusters	72.4	16.3	11.3	n = 257

The analysis reported in this section is still only a preliminary step in the application of cluster analysis techniques to job data. Although this stage of the research has not been pressed as far as the research team would have wished, the results are sufficiently encouraging to indicate the considerable potential of such techniques in job classification. The main report suggests a number of ways in which this type of analysis might be developed.

13 CONCLUSION

At the beginning of this report it was stated that the matching of people and jobs was dependent upon prior knowledge of the nature of jobs and personnel available. The report has tried to contribute to this knowledge by presenting information about the nature of library and information work and the demands which it imposes, and about the nature and use of the present workforce and the 'goodness of fit' that exists at present between job and jobholder. As the terms of reference of the project covered the whole span of librarianship and information work, this description of jobs and personnel has necessarily been presented in broad terms.

Manpower planning, in the sense of matching people and jobs, is not, of course, a panacea: there are limitations to what it can achieve. These limitations are imposed, first, by the imperfections of people. Ordinary, on-the-ground, workaday personnel management mainly involves dealing with staff whose capacities and abilities and motivations are modest rather than with high-fliers. It is a matter of making-do-and-mend with limited resources. The limitations on what manpower planning can achieve are imposed, secondly, by the imperfections of jobs. Most jobs have some less attractive feature about them, and in many jobs the unattractive features predominate. The library and information field is no exception in this respect. No amount of job redesign or work restructuring will get rid of every unpleasant task.

The acknowledgement of these limitations is not a counsel of despair but of realism. Manpower planning, in the sense in which it has been used here, involves the continual search for ways in which the less-than-perfect attributes of staff can be encouraged, developed, better-employed, and for ways in which less-than-perfect jobs can be reshaped and enlarged.

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Appendix I – Distribution of UK library and information units and personnel employed therein

Organizational type	*Number of units*	*% of all units*	*Number of personnel**	*% of all personnel*	*Mean unit size†*	*Range of unit size†*
Public	480	12.9	22,916.6	58.1	47.7	0.2–524.8
Local government	55	1.5	171.9	0.4	3.1	0.1 – 25.0
National government	15	0.4	1,530.5	3.9	102.0	1.4–228.0
University	243	6.6	3,740.7	9.5	15.4	0.1–228.7
Polytechnic	45	1.2	719.6	1.8	16.0	1.0 – 55.0
College of education	160	4.3	808.4	2.1	5.1	0.5 – 14.0
College of further education	509	13.7	1,471.9	3.7	2.9	0.1 – 16.0
Government department	513	13.8	2,319.3	5.9	4.5	0 – 107.0
Public corporation	106	2.9	710.6	1.8	6.7	0.1–214.5
Private industry	1,183	31.9	3,359.2	8.5	2.8	0 – 47.0
Learned society	189	5.1	598.9	1.5	3.2	0.1 – 27.0
Research association	123	3.3	572.4	1.5	4.7	0.1 – 37.6
Other	75	2.0	196.3	0.5	2.6	0.1 – 31.0
Library school	16	0.4	311.8	0.8	19.5	6.0 – 59.0
Total	3,712	100	39,428.1	100	10.6	0 – 524.8

Public	480	13.0	22,916.6	61.0	47.7	0.2–524.8
Academic (excluding library schools)	957	26.0	6,740.6	18.0	7.0	0.1–228.7
Special (excluding national)	2,244	61.0	7,928.6	21.0	3.5	0 – 2[illegible]5
Total	3,681	100	37,585.8	100	10.2	0 – 524.8

* Full-time equivalent
† Size in numbers employed

Source: DES Census, 1972

Appendix II – Distribution of UK library and information units by unit size (numbers employed)

Number of units	*Organizational type*	*Unit size in numbers employed*				
		0.1 – 1 persons	*1.1 – 10 persons*	*10.1 – 50 persons*	*50.1 – 100 persons*	*100.1 and over*
		%	%	%	%	%
480	Public	2.1	24.4	46.2	11.5	15.8
55	Local government	56.3	36.4	7.3	–	–
15	National government	–	6.6	26.7	26.7	40.0
243	University	25.5	46.1	19.0	8.2	1.2
45	Polytechnic	4.4	37.8	55.6	2.2	–
160	College of education	3.1	93.1	3.8	–	–
509	College of further education	21.4	77.4	1.2	–	–
513	Government department	45.0	44.6	9.4	0.8	0.2
106	Public corporation	34.9	55.7	7.6	0.9	0.9
1,183	Private industry	46.9	48.2	4.9	–	–
189	Learned society	37.6	58.2	4.2	–	–
123	Research association	22.8	65.0	12.2	–	–
75	Other	46.7	52.0	1.3	–	–
16	Library school	–	25.0	68.7	6.3	–
3,712	Total	31.7	51.2	12.5	2.3	2.3

480	Public	2.1	24.4	46.2	11.5	15.8
957	Academic (excluding library schools)	18.6	70.2	8.7	2.2	0.3
2,244	Special (excluding national)	44.0	49.4	6.3	0.2	0.1
3,681	Total	31.9	51.6	12.1	2.2	2.2

Source: DES Census, 1972

Appendix III – Distribution of UK library and information personnel by size of unit in which they are employed

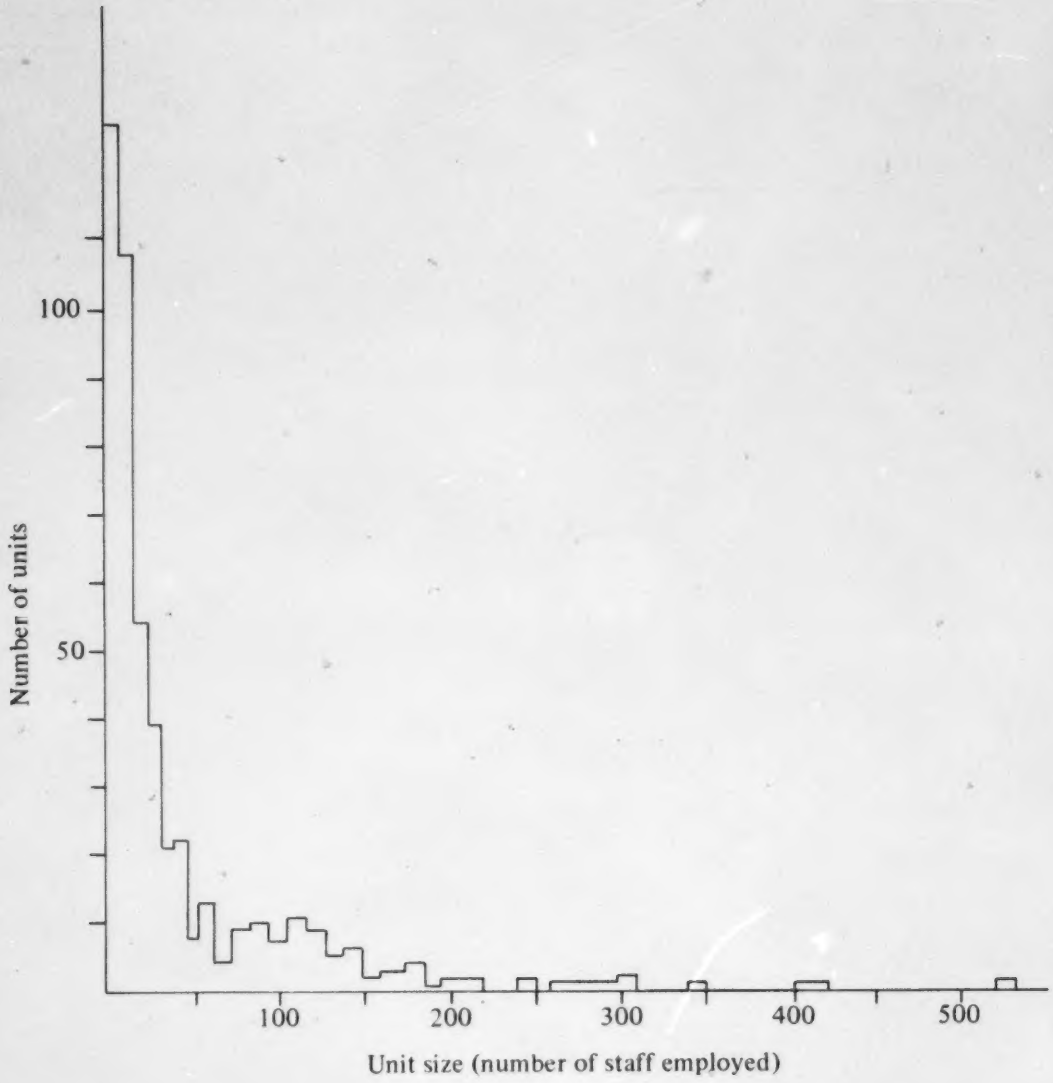
Number of Personnel	*Organizational type*	*Unit size in numbers employed*				
		0.1 – 1 persons	*1.1 – 10 persons*	*10.1 – 50 persons*	*50.1 – 100 persons*	*100.1 and over*
		%	%	%	%	%
22,916.6	Public	0.05	3.05	22.8	16.5	57.6
171.9	Local government	11.7	43.5	44.8	–	–
1,530.5	National government	–	0.1	8.2	17.2	74.5
3,740.7	University	1.3	11.4	36.2	38.1	13.0
719.6	Polytechnic	0.3	14.2	77.9	7.6	–
808.4	College of education	0.6	90.4	9.0	–	–
1,471.9	College of further education	5.2	89.8	5.0	–	–
2,319.3	Government department	5.3	37.0	41.2	11.9	4.6
710.6	Public corporation	3.6	33.5	24.2	8.5	30.2
3,359.2	Private industry	11.1	56.4	32.5	–	–
598.9	Learned society	6.4	69.7	23.9	–	–
572.4	Research association	3.5	55.4	41.1	–	–
196.3	Other	10.4	73.8	15.8	–	–
311.8	Library school	–	10.1	71.0	18.9	–
39,428.1	Total	1.9	18.4	26.2	15.0	38.5

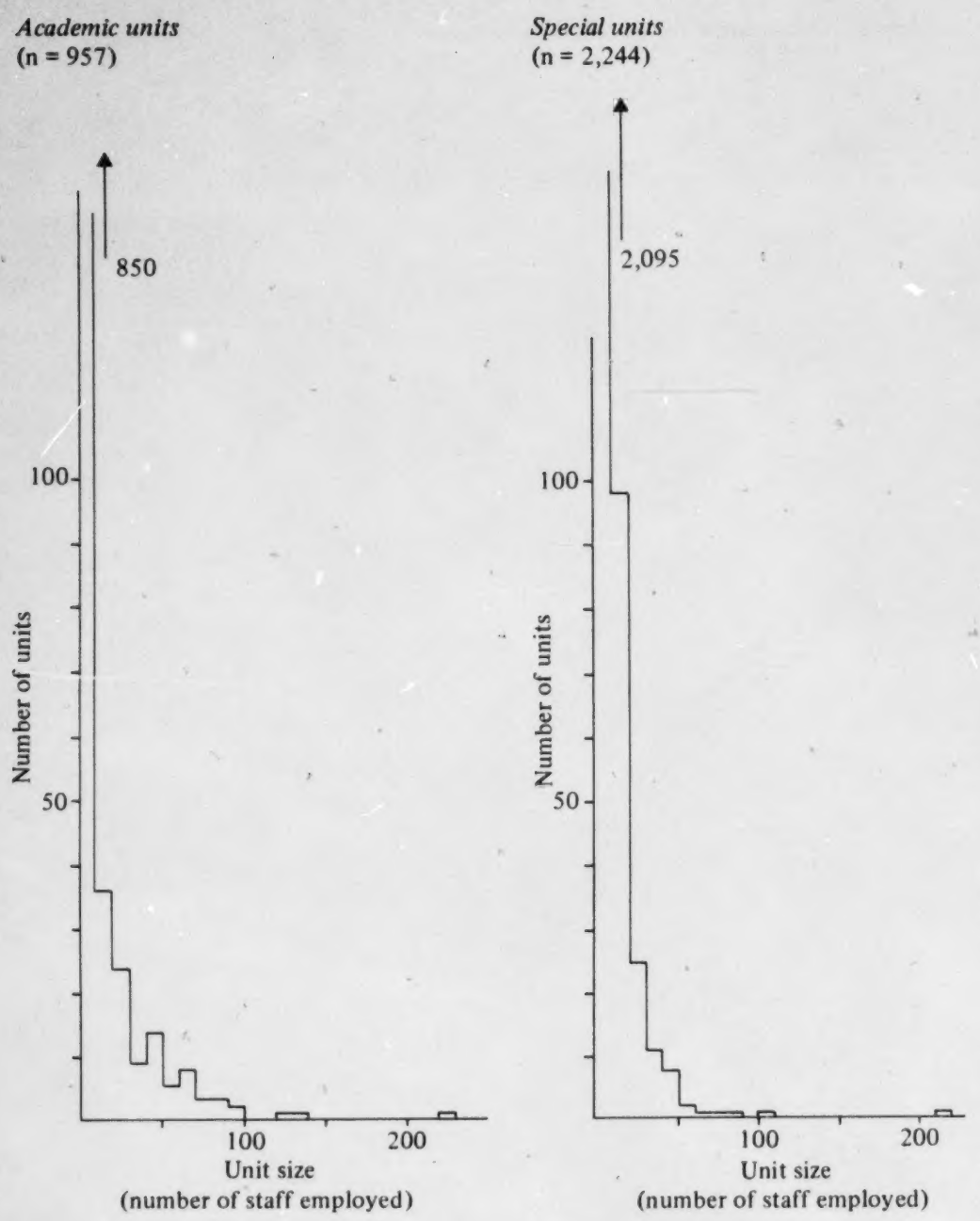
22,916.6	Public	0.05	3.05	22.8	16.5	57.6
6,740.6	Academic (excluding library schools)	1.9	38.3	30.6	22.0	7.2
7,928.6	Special (excluding national)	7.8	49.8	34.1	4.3	4.0
37,585.8	Total	2.0	19.2	26.6	14.9	37.3

Source: DES Census, 1972

Appendix IV – Distribution of units by unit size

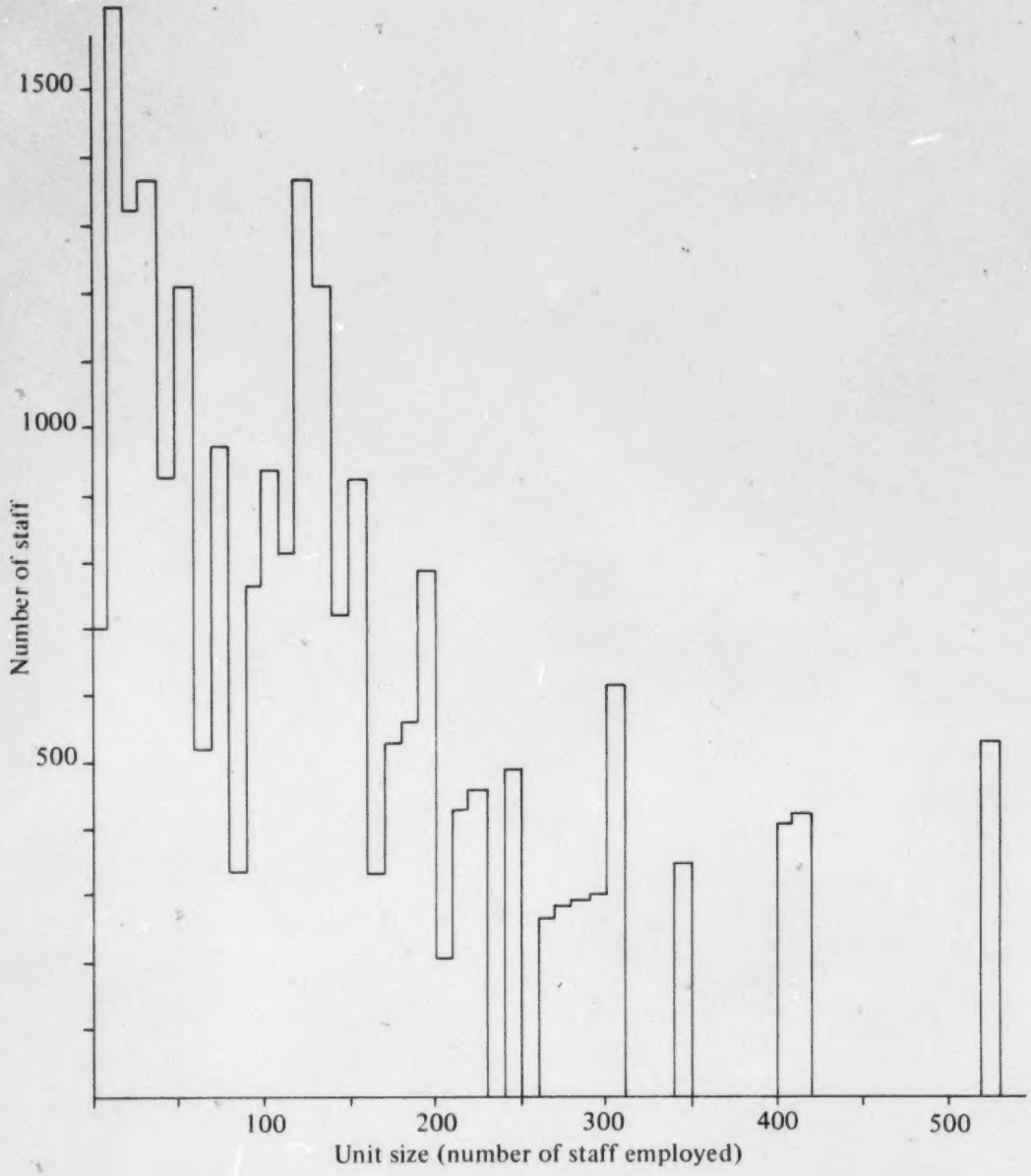
Public units
(n = 480)

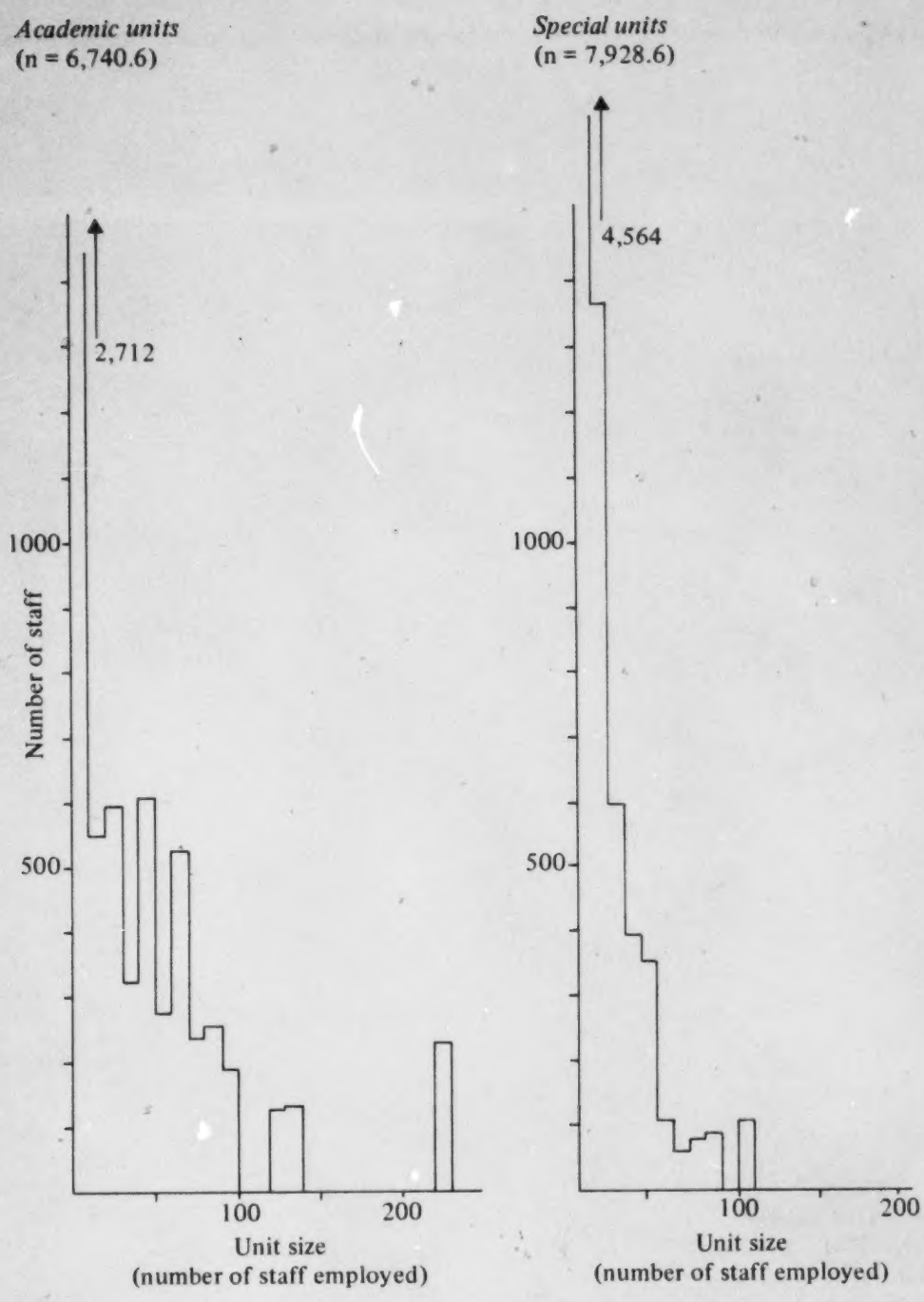



Academic units
(n = 957)
850
100
50
Number of units
100
200
Unit size
(number of staff employed)
Special units
(n = 2,244)
2,095
100
50
Number of units
100
200
Unit size
(number of staff employed)

Appendix V – Distribution of staff by unit size

Public units
(n = 22,916.6)




Academic units
(n = 6,740.6)
2,712
1000
500
Number of staff
100
200
Unit size
(number of staff employed)
Special units
(n = 7,928.6)
4,564
1000
500
100
200
Unit size
(number of staff employed)

Appendix VI – Distributions of jobholders in the sample by certain biographical characteristics

	Public	*Academic*	*Special*	*All*
	%	%	%	%
Men	25.2	27.6	30.3	27.0
Women	74.8	72.4	69.7	73.0
	n = 547	n = 214	n = 251	n = 1,012

Table 1 – Distribution by sex

	<20	20–24	25–34	35–44	45–54	>54	
	%	%	%	%	%	%	
Public	10.3	22.3	31.5	15.0	15.0	5.9	n = 542
Academic	6.1	18.4	24.5	23.6	20.3	7.1	n = 212
Special	5.2	18.1	33.8	19.7	12.0	11.2	n = 249
All	8.2	20.4	30.6	17.9	15.4	7.5	n = 1,003

Table 2 – Distribution by age

	Public	*Academic*	*Special*	*All*
	%	%	%	%
None	9.0	7.5	12.0	9.4
CSE/O level/ONC/OND	34.0	25.7	23.5	29.6
A level/HNC/HND	33.1	28.5	26.7	30.5
Degree, university diploma	22.8	31.8	31.8	27.0
Higher degree	1.1	6.5	6.0	3.5
	n = 547	n = 214	n = 251	n = 1,012

The proportions holding a university qualification with a library and information work content are respectively 7.7%, 9.3%, 10.3% and 8.7%.

Table 3 – Highest educational qualification

	Public %	*Academic* %	*Special* %	*All* %
None	55.8	50.5	63.3	56.6
City and Guilds	2.9	5.1	3.2	3.5
L A Part I	2.0	5.1	1.6	2.5
L A Parts I & II	4.0	3.3	2.8	3.5
A L A	31.6	29.9	20.3	28.5
F L A	3.7	6.1	2.4	3.9
A M or F I Inf Sc	0	0	6.4 *	1.5
	n = 547	n = 214	n = 251	n = 1,012

*Includes one case where jobholder has also passed Parts I & II.

Table 4 – Professional qualification

	Public %	*Academic* %	*Special* %	*All* %
With degree and qualified	11.9	21.5	13.5	14.3
With degree but unqualified	12.1	16.8	24.3	16,1
No degree but qualified	27.4	17.8	17.9	23.0
No degree and unqualified	48.6	43.9	44.2	46.6
	n=547	n = 214	n = 251	n = 1,012

Table 5 – Educational and professional qualification combined*

*'Professional qualification' here includes Parts I & II, ALA, FLA and A, M, or F I Inf Sc.

	Public %	*Academic* %	*Special* %	*All* %
Public	32.2	27.1	7.6	25.0
Academic	2.6	14.0	6.0	5.8
Special	2.2	6.1	12.3	5.5
Public and academic	2.9	10.3	3.2	4.5
Public and special	2.2	5.1	9.6	4.6
Academic and special	0.4	3.3	4.4	2.0
Public, academic and special	0.9	2.3	4.8	2.2
None	56.6	31.8	52.1	50.3
	n = 547	n = 214	n = 251	n = 1,012

Table 6 – Type of previous experience in library and information work
(ie prior to unit in which jobholder now works)

Appendix VIII – Distributions of jobs in the sample by certain general identifying characteristics

	<£1000	£1000-£1499	£1500-£1999	£2000-£2499	£2500-£2999	£3000-£3499	£3500-£3999	£4000-£4999	>£4999	
	%	%	%	%	%	%	%	%	%	
Public	12.3	20.1	22.4	15.9	12.3	10.1	4.3	1.9	0.7	n = 536
Academic	13.7	17.9	22.2	10.4	8.5	7.5	8.0	8.0	3.8	n = 212
Special	4.2	9.6	21.8	20.1	16.3	12.1	7.5	4.6	3.8	n = 239
All	10.6	17.1	22.2	15.7	12.5	10.0	5.9	3.9	2.1	n = 987

Table 1 – Job distribution by salary year

	Public	*Academic*	*Special*	*All*
	%	%	%	%
Senior-graded jobs	46.3	53.3	67.7	53.1
Junior-graded jobs	53.7	46.7	32.3	46.9
	n = 547	n = 214	n = 251	n = 1,012

Table 2 – Job distribution by job grade

	Public	*Academic*	*Special*	*All*
	%	%	%	%
Specific involvement in technical services	4.0	5.6	1.5	3.8
Specific involvement in user services	6.8	2.4	5.6	5.6
More general involvement in technical services	2.8	8.5	7.2	5.1
More general involvement in user services	16.7	5.6	3.6	11.1
Involvement over whole area of technical & user services	69.0	77.9	81.3	73.8
Administrative	0.7	0	0.8	0.6
	n = 545	n = 213	n = 251	n = 1,009

Table 3 – Job distribution by principal work area involved

	Public %	*Academic* %	*Special* %	*All* %
Planning	0.2	0	0	0.1
Supervision	0.4	0.5	0	0.3
Practice	63.0	60.6	66.9	63.5
Planning & supervision	1.5	0	0	0.8
Planning & practice	0.4	0.9	0.4	0.5
Supervision & practice	30.7	18.8	21.5	25.9
Planning, supervision & practice	3.8	19.2	11.2	8.9
	n = 546	n = 213	n = 251	n = 1,010

Table 4 – Job distribution by nature of job involvement

	Public %	*Academic* %	*Special* %
With special material emphasis	9.3	6.1	10.8
Without special material emphasis	90.7	93.9	89.2
	n = 547	n = 214	n = 251

Table 5 – Job distribution by jobs with special material emphasis

	Public %
With special user emphasis	14.6
Without special user emphasis	85.4
	n = 547

Table 6 – Job distribution by jobs with special user emphasis

	Public %	*Academic* %	*Special* %
With special subject emphasis	4.2	21.0	9.6
Without special subject emphasis	95.8	79.0	90.4
	n = 547	n = 214	n = 251

Table 7 – Job distribution by jobs with special subject emphasis

	Public %	*Academic* %	*Special* %
With special equipment emphasis	2.4	2.3	3.6
Without special equipment emphasis	97.6	97.7	96.4
	n = 547	n = 214	n = 251

Table 8 – Job distribution by jobs with special equipment emphasis

	Public %	*Academic* %	*Special* %
With special emphasis of any kind	28.2	28.0	18.7
Without special emphasis of any kind	71.8	72.0	81.3
	n = 547	n = 214	n = 251

Table 9 – Job distribution by jobs with special emphasis of any kind

Appendix VIII – Nature of, and reasons for, past and possible future change in work

	Public %	*Academic* %	*Special* %	*All* %
Change of post within organization	16.5	7.5	11.1	13.4
Temporary change of post, now ended	3.8	7.0	4.2	4.5
Temporary change of post, continuing	3.8	4.8	5.7	4.5
Same post, but assigned more duties/responsibilities	34.2	32.8	34.4	34.1
Same post, but extra duties acquired through own initiative	10.8	18.3	21.4	14.9
Work now more specialized	10.2	11.3	8.4	9.9
Work now less specialized	4.4	1.6	3.4	3.6
Reduction in duties/ responsibilities	4.5	3.8	1.9	3.7
Other type of change	11.8	12.9	9.5	11.4
	100.0	100.0	100.0	100.0
	n = 550	n = 186	n = 262	n = 998

n = number of comments made, taking account of multiple responses.

Table 1 – Nature of past change in work

	Public %	*Academic* %	*Special* %	*All* %
Promotion	10.2	6.7	11.9	10.0
Transfer as part of training	5.3	1.8	1.9	3.8
Organizational change	43.8	29.9	37.2	39.5
Organizational growth	20.4	29.9	21.9	22.6
Contraction in organization	1.8	1.8	2.4	1.8
Technical change	7.0	6.1	7.6	7.0
Other reasons	11.5	23.8	17.1	15.3
	100.0	100.0	100.0	100.0
	n = 470	n = 164	n = 210	n = 844

n = number of comments made, taking account of multiple responses..

Table 2 – Reasons for past change in work

	Public %	*Academic* %	*Special* %	*All* %
Change of post within organization	11.9	10.9	5.1	9.6
Temporary change of post	2.6	4.0	5.1	3.7
Same post, but assigned more duties/responsibilities	27.6	28.6	29.5	28.4
Same post, but extra duties acquired through own initiative	9.4	10.9	16.7	12.0
Work more specialized	8.9	5.0	16.0	10.4
Work less specialized	1.3	3.0	1.3	1.6
Reduction in duties/ responsibilities	3.4	7.9	3.2	4.3
Unlikely to remain with this organization	20.9	11.9	13.5	16.6
Other type of change	14.0	17.8	9.6	13.4
	100.0	100.0	100.0	100.0
	n = 235	n = 101	n = 156	n = 492

n = number of comments made, taking account of multiple responses.

Table 3 – Likely nature of future change in work

	Public %	*Academic* %	*Special* %	*All* %
Promotion	7.3	5.0	4.1	5.8
Transfer as part of training	8.7	1.0	2.8	5.2
Organizational change	23.7	35.4	29.0	27.8
Organizational growth	19.2	23.2	22.8	21.2
Contraction in organization	1.4	7.1	10.3	5.4
Technical change	10.0	9.1	11.7	10.4
Other reasons	29.7	19.2	19.3	24.2
	100.0	100.0	100.0	100.0
	n = 219	n = 99	n = 145	n = 463

n = number of comments made, taking account of multiple responses.

Table 4 – Likely reasons for future change in work

	Public	*Academic*	*Special*	*Total*
Work-centred factors:				
Routine	174	95	113	382
Involvement with users	78	15	16	109
Inability to provide service	5	6	5	16
No intellectual demand	3	4	6	13
No end product	1	1	3	5
Physical demand	115	22	13	150
	376 (46.2%)	143 (51.6%)	156 (54.4%)	675 (49.0%)
Working conditions:				
Colleagues	5	3	3	11
Management and organization	42	12	4	58
The profession and professional librarians	7	3	2	12
Pressure of work	18	2	21	41
Rush/slack periods	5	1	2	8
Interruptions	5	2	5	12
Quiet; isolated	1	3	1	5
Status	30	21	31	82
Undermanned	10	6	2	18
Underfinanced	14	2	3	19
Physical aspects	22	1	10	33
Working conditions	2	–	–	2
	161 (19.8%)	56 (20.2%)	84 (29.3%)	301 (21.9%)
Terms and conditions of service:				
People/jobs ratio	2	3	7	12
Promotion; career prospects	30	14	10	54
Job insecurity	–	1	2	3
Overqualification	4	–	2	6
Pay	31	11	11	53
Hours of work	199	42	6	247
Holidays	3	2	–	5
Training	–	1	2	3
Terms/conditions of employment	1	–	–	1
	270 (33.2%)	74 (26.7%)	40 (13.9%)	384 (27.9%)
Miscellaneous	6	4	7	17
Total	813 (100%)	277 (100%)	287 (100%)	1,377 (100%)

(Figures refer to the number of times each feature is mentioned.)

Table 2 – Summary of 'worst' features of library and information work

Appendix IX – Summary of best and worst features of library and information work

	Public	*Academic*	*Special*	*Total*
Work-centred factors:				
Variety	194	75	98	367
Involvement with users	231	77	80	388
Service	136	68	58	262
Social worth	30	10	8	48
Intellectually satisfying	92	49	73	214
Personal development	57	31	35	123
Books, library material etc.	75	3	6	84
Tangible end product	1	1	2	4
Opportunity for initiative	11	8	11	30
Particular tasks itemized	10	–	–	10
The work itself	21	4	4	29
	858	326	375	1,559
	(82.0%)	(83.6%)	(88.2%)	(83.8%)
Working conditions:				
Colleagues	31	6	3	40
Atmosphere	24	13	4	41
Stress free	13	6	3	22
Work style	7	7	10	24
Responsibility	3	–	4	7
Teamwork	5	1	3	9
Status	3	1	1	5
Physical aspects	4	2	2	8
Working conditions	5	–	1	6
	95	36	31	162
	(9.1%)	(9.2%)	(7.3%)	(8.7%)
Terms and conditions of service:				
Job opportunities	25	9	9	43
Promotion; career prospects	6	5	2	13
Job security	13	4	1	18
Pension	1	–	–	1
Pay	20	5	1	26
Hours of work	16	1	–	17
Holidays	1	1	–	2
Sex equality	3	–	–	3
Training	2	–	–	2
Terms/conditions of employment	3	–	–	3
	90	25	13	128
	(8.6%)	(6.4%)	(3.1%)	(6.9%)
Miscellaneous	3	3	6	12
Total	1,046	390	425	1,861
	(100%)	(100%)	(100%)	(100%)

(Figures refer to the number of times each feature is mentioned.)

Table 1 – Summary of 'best' features of library and information work

	Cluster nos.	1	2	3	4	5	6	7	8
	No. of members	69	90	56	67	38	83	51	58
Variables (0.00←→1.00)	*Means for total sample*								
1 Work area (generalist/specialist)	0.25	0.33	0.06	0.39	0.21	0.13	0.33	0.08	0.24
2 Special emphasis (no/yes)	0.24	0.06	0.16	0.38	0.07	0.84	0.11	0.25	0.09
3 Job involvement (practitioner/ management)	0.38	0.03	0.96	0.32	0.21	0.08	0.04	0.78	1.00
4 Education (non-graduate/graduate)	0.25	0.01	0.71	0.13	0.04	0.05	0.01	0.27	0.50
5 Experience (<3 years/≥3 years)	0.37	0.12	0.92	0.18	0.09	0.11	0.07	0.90	0.83
6 Choice (narrow/wide)	0.62	0.04	0.94	0.84	0.34	0.37	0.11	0.92	0.90
7 Improvisation (low/high)	0.58	0.00	0.94	0.86	1.00	0.66	0.04	0.86	0.98
8 Independence (team/solo)	0.34	0.07	0.20	0.09	0.01	0.45	0.16	0.37	0.28
9 Variety (unvaried/varied)	0.38	0.19	1.00	0.93	0.03	0.50	0.16	0.82	0.00
10 Pace of work (slow/fast)	0.34	0.28	0.66	0.73	0.25	0.71	0.12	0.31	0.29
11 Focus of attention (short/long)	0.28	0.17	0.09	0.23	0.16	0.47	0.43	0.12	0.24
12 Contact with people? (no/yes)	0.45	1.00	0.37	0.95	0.81	0.16	0.00	0.98	0.33
13 Physical demands? (no/yes)	0.62	0.97	0.36	0.88	0.97	1.00	0.89	0.76	0.41
14 Subject to change? (no/yes)	0.62	0.46	0.88	0.80	0.66	0.89	0.48	0.10	0.90

	Cluster nos.	9	10	11	12	13	14	15
	No. of members	52	40	40	45	49	33	49
Variables (0.00←→1.00)	*Means for total sample*							
1 Work area (generalist/specialist)	0.25	0.10	0.07	0.63	0.07	0.98	0.18	0.06
2 Special emphasis (no/yes)	0.24	0.19	0.23	0.17	0.24	0.18	0.97	0.39
3 Job involvement (practitioner/ management)	0.38	0.12	0.90	0.13	0.11	0.10	0.67	0.16
4 Education (non-graduate/graduate)	0.25	0.19	0.33	0.00	0.36	0.16	0.94	0.27
5 Experience (<3 years/≥3 years)	0.37	0.21	0.78	0.25	0.13	0.12	0.52	0.24
6 Choice (narrow/wide)	0.62	0.96	0.72	0.65	0.80	0.16	0.91	0.92
7 Improvisation (low/high)	0.58	0.69	0.00	0.53	0.24	0.18	0.88	0.76
8 Independence (team/solo)	0.34	0.83	0.05	1.00	0.51	0.45	0.33	0.94
9 Variety (unvaried/varied)	0.38	1.00	0.25	0.10	0.02	0.12	0.42	0.00
10 Pace of work (slow/fast)	0.34	0.25	0.23	0.40	0.24	0.16	0.61	0.06
11 Focus of attention (short/long)	0.28	0.08	0.33	0.50	0.24	0.63	0.58	0.31
12 Contact with people? (no/yes)	0.45	0.40	0.45	0.68	0.24	0.10	0.06	0.10
13 Physical demands? (no/yes)	0.62	0.33	0.68	1.00	0.04	0.00	0.30	0.33
14 Subject to change? (no/yes)	0.62	0.52	0.72	0.57	0.04	0.59	0.36	0.94

Table 1 – Centroids for the 15 clusters

	Variables	*Meaning of – symbol**	*Meaning of + symbol**	*Cluster no.* 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Work area	Generalist	Specialist		–					–		–	–	+	–	+		–
2	Special emphasis	No	Yes	–			–	+	–		–						+	
3	Job involvement	Practitioner	Planning/ supervisory	–	+			–	–	+	+	–	+	–	–	–	+	–
4	Educational attainment	Non-graduate	Graduate	–	+		–	–	–					–			+	
5	Length of experience	<3 years	⩾3 years	–	+	–	–	–	–	+	+		+		–	–		
6	Freedom of choice	Narrow	Wide	–	+	+			–	+	+	+				–	+	+
7	Need for improvisation	Low	High	–	+	+	+		–	+	+		–		–	–	+	
8	Independence/ interdependence	Team	Solo	–		–	–		–			+	–	+				+
9	Variety	Unvaried	Varied	–	+	+	–		–	+	–	+		–	–	–		–
10	Pace of work	Slow	Fast			+		+	–							–		–
11	Focus of attention	Short	Long		–					–		–				+		
12	Contact with people?	No	Yes	+		+	+	–	–	+						–	–	–
13	Physically demanding?	No	Yes	+		+	+	+	+					+	–	–	–	
14	Subject to change?	No	Yes		+	+		+		–	+							+

* indicates a marked tendency in this direction by comparison with the whole sample.

Table 2 – Main characteristics of the clusters

		Cluster no.	Training time Educ.	Exper.	Practitioner (0) – Planning/S'visory(1)	%–age senior-graded jobs
I	High					
		2	.71	.92	.96	100
		14	.94	.52	.67	100
		8	.50	.83	1.00	91.4
		7	.27	.90	.78	86.3
		10	.33	.78	.90	95.0
II	Intermediate					
		15	.27	.24	.16	75.5
		12	.36	.13	.11	46.7
		9	.19	.21	.12	53.8
		3	.13	.18	.32	46.4
		13	.16	.12	.10	36.7
		11	.00	.25	.13	30.0
III	Low					
		5	.05	.11	.08	26.3
		4	.04	.09	.21	14.9
		1	.01	.12	.03	8.7
		6	.01	.07	.04	10.8
Values for total sample			.25	.37	.38	53.1

Table 3 – Clusters arranged by centroid values for the variables of education, experience and nature of job involvement, together with the percentage of senior-graded jobs to be found in each cluster

Cluster no.	Public %	Academic %	Special %	n
1	87.0	10.1	2.9	69
2	38.9	23.3	37.8	90
3	71.4	12.5	16.1	56
4	82.1	11.9	6.0	67
5	60.5	26.3	13.2	38
6	57.8	20.5	21.7	83
7	68.6	17.7	13.7	51
8	50.0	22.4	27.6	58
9	26.9	28.9	44.2	52
10	82.5	7.5	10.0	40
11	70.0	20.0	10.0	40
12	11.1	33.3	55.6	45
13	42.9	26.5	30.6	49
14	24.2	39.4	36.4	33
15	26.5	20.4	53.1	49
	54.5	20.6	24.9	820

Table 4 – Distribution of jobs by cluster and by organizational type

Cluster no.	*Public*	*Academic*	*Special*
1	1 : 1.60	1 : 0.49	1 : 0.12
2	1 : 0.71	1 : 1.13	1 : 1.52
3	1 : 1.31	1 : 0.61	1 : 0.65
4	1 : 1.51	1 : 0.58	1 : 0.24
5	1 : 1.11	1 : 1.28	1 : 0.53
6	1 : 1.06	1 : 1.00	1 : 0.87
7	1 : 1.26	1 : 0.86	1 : 0.55
8	1 : 0.92	1 : 1.09	1 : 1.11
9	1 : 0.49	1 : 1.40	1 : 1.80
10	1 : 1.51	1 : 0.36	1 : 0.40
11	1 : 1.28	1 : 0.97	1 : 0.40
12	1 : 0.20	1 : 1.62	1 : 2.23
13	1 : 0.79	1 : 1.29	1 : 1.23
14	1 : 0.44	1 : 1.91	1 : 1.46
15	1 : 0.49	1 : 0.99	1 : 2.13

Table 5 – Proportions of jobs of each organizational type in total sample compared with proportions in clusters.*

*Thus jobs in public units are more highly represented in cluster 1 than in the total sample.

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